built environment design education

shaping **places**

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Kent Architecture Centre 2006

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Warblington School, Havant

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contents

this book

This book is a key outcome of **Shaping Places**, a built environment education programme developed by Kent Architecture Centre in primary and secondary schools in the south of England 2003-2005. The book is intended for teachers who wish to develop environmental design projects dealing with change. It will be of particular interest to teachers in art and design, geography, design technology and ICT in secondary schools and teachers in primary schools. It is in four parts:

- PROCESS
- PROJECTS
- STUDY METHODS
- WORKING TOGETHER

Process explains how involvement in design and designing can be a learning process for pupils, extending their experience of the built environment, deepening their understanding and helping them to think about the process of change.

Projects provides a glimpse of the ways in which schools in the programme developed studies related to environmental issues in their local area. Students in secondary schools and their primary feeder schools followed similar programmes of study, adapted for the different age groups. A key factor in all the projects was the need to consider possibilities for change.

Study methods explains methods and techniques used in the programme that can be adapted by any school. Many of the approaches will be familiar to geography and art and design teachers. The aim here is to clarify how these methods can be used in environmental design projects and how teachers from different disciplines can collaborate on environmental projects.

Working together focuses on relationships, particularly the value of group work. Although approaches were developed through teachers from different disciplines and phases working with artists and built environmental professionals, it is not anticipated that future projects will always involve interdisciplinary working, cross-phase or inter-professional collaboration. What is possible is for teachers and other educators to use the methods shown here and adapt them to a variety of settings.

The range of projects and study methods is not exhaustive or comprehensive, but the book does identify a variety of models, approaches and techniques that can be adapted to different situations. The hope is that it will provide prompts and inspiration as well as a framework and strategies for study for both experienced teachers and for those contemplating environmental and design projects for the first time. This book:

- Argues the case for environmental design projects to be included in the school curriculum.
- Exemplifies possible content of projects and ways of handling project-based learning. It shows convincingly the sequence of study that other schools can adopt to develop their own environmental design projects and provides a wealth of study activities that can be adapted to suit different age groups.
- Can be used to develop a policy for environmental education, to ensure that pupils experience different kinds of environments and a variety of study methods in successive years.
- Can be used by different subject teachers in secondary schools (particularly art and design, geography and design technology) to develop multi-disciplinary or interdisciplinary projects.
- Can help artists and built environment professionals to contribute to educational programmes.

This book does not mark the end of a programme, but the beginning of a new phase of development, when other schools are invited to develop their own projects.

shaping places

Shaping Places was an education programme developed by the Kent Architecture Centre and delivered in collaboration with the Solent Centre for Architecture + Design and a range of partners, 2003-2005. It involved artists, designers, architects, landscape architects and planners working with teachers from a number of disciplines and pupils in secondary schools and their feeder primary schools in the south of England. The built environment projects dealing with environmental change involved Key Stage 2 and 3 pupils, and focused on local design and development issues. The programme was piloted in two locations, Ramsgate and Havant in 2004. A further six projects took place across the south-east region in 2005 in Bracknell, Hastings, High Wycombe, Ryde, St Leonards on Sea, Southampton and Strood.

The aim was to engage young people in the urban design process in the hope that the next generation might be better prepared to play an active role in future in shaping the built environment, whether as citizens, designers or built environment practitioners. Teachers adapted ways of working in art and design and geography to contribute to built environment education, environmental design and education for sustainability. Artists and built environment practitioners shared their expertise and gained an understanding of how young people learn in schools. The intention was to develop educational strategies that could transfer to other settings.

The programme aimed to:

- Raise awareness and increase the interest and ability of young people to participate in the process of shaping the environment to create better places to in which to live, work and play.
- Create a forum through which teachers, artists and built environment practitioners could work together as educators, sharing their knowledge and skills.
- Support the development of education programmes at two architecture centres, The Kent Architecture Centre in Chatham and the Solent Architecture Centre for Architecture + Design in Southampton.
- Work with a wide range of organisations across the south east region with interest in the built environment, strengthening links between them to encourage networking and mutual support.

Evaluation

Eileen Adams was commissioned to monitor, review and evaluate the programme. This evaluation was part of a systematic approach to generate case study material, established by The Kent Architecture Centre in a previous A4E funded project, Sight Specific. The evaluation has been guided by an advisory group of individuals from key partner organisations. The aim has been to create a substantial body of knowledge about the scope of environmental design studies, the possible content and appropriate methods, and the contributions different subject disciplines can make. This book is an important outcome of the evaluation. Its purpose is to summarise the ideas and the learning strategies developed on the Shaping Places programme that can transfer to other settings. The aim is to encourage and support teachers and other educators to develop built environment projects dealing with change.

process







STREETWORK // CLASSWORK // GROUP W
IONS // ADULT SUPPORTING LEARNING ACTIVITY
RESENTATIONS /
STREETWORK // CLASSWORK // GROUP
WORK // GROUP W
// ADULT SUPPORTING

process

Design provides opportunities for learning of different kinds. It creates knowledge and understanding of how we shape and manage our environment and how we choose to live **(design awareness)**. It develops a questioning and critical stance where previous assumptions about material culture can be brought into question, judgements made and opinions justified. It also raises qualitative and ethical issues **(critical study).** It nurtures attitudes, skills and capabilities that enable young people to deal with the experience of change, and help them to see how they can play a part in shaping their environment **(design activity)** and provides experience of working collaboratively. It draws on different modes of thought and action primarily concerned with adaptation, transformation, invention and innovation **(designerly thinking).**

Design and design education look to the future. This is very different from the way the school curriculum is usually organised, based on the past and what we already know. Design is about what we do not know. It is about imagining the future and making it happen. In design education, we are enabling young people to explore how the environment impacts upon them and how they in turn might impact upon it.

Learning *about* design

To learn ***about*** design**,** you can open your wardrobe, flick through a magazine, turn on the television, walk down the street, go into a shop, stand at a traffic intersection, travel on a train, have a meal in a restaurant. You literally bump into it at every turn. You cannot help learning ***about*** design – if you are able to pay attention, make sense of your experience and have developed skills of analysis and critique.

Learning to design

Learning ***to*** design, a learning process echoing what professional designers do provides a useful framework. This involves: identifying a need or opportunity for change; research and investigation; ideas generation, experimentation, critique; developing and refining ideas, creating designs and prototypes; further testing; and finally production. It reflects good educational practice. In projects in schools, the most valuable outcome is not what has been designed. It is what has been learnt.

Learning through design

Learning through design is the educational model. It brings together these two areas: learning *about* design and learning *to* design: design awareness and design activity. These are linked by reflection and critical study, in relation to the work of other designers and pupils' own work.

The emphasis is not so much on informational content, but on learning strategies. These enable pupils to understand, to think and to do things. Study involves a range of intellectual, practical and social skills. It relies on visual and spatial modes of thinking as well as verbal skills. It requires pupils to make connections and judgements. Most importantly, it focuses on the notion of change, nurturing young people's powers of imagination.

Learning though design introduces students to learning experiences and working relationships different from other areas of the curriculum. One big difference is that the teacher does not know the answer before the students embark on the project. The whole point is to learn something new, to generate ideas and understandings, not to transmit, absorb and regurgitate what is already known.

Learning through design involves collaborative working and group effort. The work cuts across the boundaries of subject disciplines and addresses wider curriculum concerns, such as citizenship and education for sustainability.

Learning by design

Learning ***by*** design is where the teacher creates a framework of experiences and activities for the students to learn. Teaching here is not instruction. It is not merely providing information or explanation. It is supporting the learning activities by creating a framework for learning, encouraging a questioning attitude, providing learning strategies and presenting an appropriate role model.

Learning for design

Learning ***for*** design might refer to training future professional designers. In schools, we are not doing this, though hopefully some pupils may go into the design professions. We are educating young people to be active as designers in their everyday lives. In environmental design projects they will develop understandings and skills they need to participate in shaping places as future citizens.

design & learning

Environmental design education is essentially about how the environment has been shaped in the past and how it might be created in the future. It involves young people in thinking about change, visualising possibilities for change and testing these out through the use of various types of modelling, primarily drawing, photography, constructions and digital images.

The significant starting points are how pupils experience their environment, how they are able to make sense of it, how they respond to it and what it means to them. How are they able to impact upon it? How do they see themselves as agents of change? How are they able to deal with the process of change confidently, creatively and responsibly?

Experiential learning

The work is based on direct experience of the environment. The challenge for teachers is to ask:

- What is pupils' experience of the environment?
- How can I extend and enrich their experience?
- How can I deepen their understanding?

Projects oblige young people to question and be reflective about relationships between people, buildings and places. Pupils' experience is used as a source of knowledge, particularly about the local area.

Skills-based learning

The environment is so diverse, and possibilities for study so varied, that it is appropriate for built environment education to emphasise the importance of skills to deal with the ever-changing content of studies. These skills need to develop young people's intellectual capabilities to deal with new experiences, new ideas and new understandings, and help them to bring new solutions to the age-old problems of how we shape and manage our environment.

Project based learning

Project-based learning is admirably suited to this. The content of ideas is generated through shared experience. It draws on a range of disciplines. Many study methods are not subject-specific and can be adapted to a variety of situations and adopted by teachers from different disciplines.

Environmental design projects often require a move away from the traditional arrangement of drip-feed weekly lessons, and use the precious resource of time more effectively in block timetabling as well as 'immersion' experiences of intensive study during subject or 'activity' weeks. These give pupils more continuity and depth of involvement. It is also easier to accommodate visiting artists and designers and members of the local community.

Learning outcomes

A key aim is to develop pupils' confidence and study skills, so that they become independent learners. The main purpose of their school experience is that they learn how to learn, they learn to love learning and they carry with them the attitudes, skills and useful habits of learning into their lives after school, when they are able to apply the results of their learning.

environment

Direct experience of the built environment is a powerful stimulus for learning. It enables pupils to reflect on how our surroundings have been shaped and managed and raises issues about what it might be like in the future. The environment is changing all the time, whether slow and imperceptible, or sudden and dramatic, change is the only certainty we have.

Development can be refurbishment or renewal, new build or regeneration schemes. The scale of development varies enormously, and this will be a consideration in planning a programme of study for pupils. So too will travelling distance, the stage of development, how easy it will be to access the site and how practicable it will be to undertake the fieldwork.

Topics that can provide a focus for study include:

- Allotments
- Brown field sites
- Child -friendly environments
- Commercial development
- Conservation
- Ecology and 'green' design
- Education buildings
- Gap sites and infill development
- Heritage
- Housing
- Landscaping
- Land reclamation
- Leisure centre
- New uses for old buildings
- Office building
- Pedestrian movement
- Play provision
- Public art
- Public building
- Public space
- Recreation facilities
- Routes
- School grounds
- Sheltered housing
- Signage
- Sports facilities
- Supermarkets and local shops
- Tourist attractions
- Town centre development

planning & preparation

Decide on aims and objectives
- To develop design awareness and an understanding of urban design
- To develop skills of observation, analysis, synthesis, critique, design
- To nurture skills of citizenship, engage pupils in environmental change
- To promote both independent study and collaborative learning

Place project in curriculum context
- Confirm connections with the National Curriculum and examination criteria
- Identify connections with previous environmental projects
- Take account of pupils' previous experience, skills, knowledge

Identify opportunities
- Identify current developments to provide opportunities for study
- Make contact with built environment organisations and local authority
- Explore study site to determine potential for study

Anticipate organisational requirements
- Investigate study site for risk assessment and suitability for study
- Organise parental permissions for study outside school
- Book visits, transport, people, rooms, equipment

Plan the outline programme
- Outline ideas, content, learning activities, teaching strategies:
  - Introduction
  - Fieldwork
  - Classwork and studiowork
  - Presentations
  - Exhibitions
- Think about documentation and evaluation
- Decide on timing - drip-feed or activity week? Summer or autumn term?

Identify resources
- Those already available and new additions necessary
- Books about the local area
- Images of the local area – spaces, landscape, buildings and public art, and other examples elsewhere
- Maps and plans
- Drawings by artists, illustrators, architects, landscape architects, interior designers
- Useful websites and local sources of information

Check materials and consider practicalities
- Check supplies of consumables:
- Drawing materials, clipboards, biros, fibre tip pens
- Card, acetate, tracing paper, overhead projector pens
- Scrap material for 3D work, masking tape, glue guns
- Identify places for storage of work in progress and display on completion

Check equipment
- Overhead projector
- Digital cameras
- Computers, whiteboards, data projector, software

Think about documentation
- Plan for recording and archiving some of the work

sequence of study

The content, conduct and timing of projects will of course be determined by the needs of the pupils, the requirements of the curriculum and local opportunities that can provide an impetus for study. This framework outlining the sequence of study is a useful checklist to help teachers in planning environmental design projects.

AIMS AND OBJECTIVES

- What is the focus and purpose of the study? What are key questions?
- What will pupils learn? (knowledge, understand attitudes, skills)

INTRODUCTION

- How to introduce the project?
- How to motivate pupils to want to do the work?
- What is the context for the study?
- What are the key issues?

FIELDWORK

- What is the purpose of the fieldwork?
- What kinds of investigations and information gathering are involved?
- How is the fieldwork to be organised?

CLASSWORK

- How are ideas developed?
- How do pupils generate possibilities for change?
- How do pupils test out, develop and refine their ideas?

RESOURCES

- What sources of reference are used?

APPRAISAL

- What questions need to be asked?
- What are criteria for appraisal?

GENERATING IDEAS

- What methods are used to generate ideas (ideas-storm, 'blue-sky thinking')

DEVELOPING PROPOSALS

- How are proposals for change developed? Experimentation? Critique?
- What are alternatives? How are prototypes tested out and refined?
- How do adults give feedback / critical comment / suggestions?

PRESENTING PROPOSALS

- In what form are ideas summarised?
- How do pupils present proposals?
- How do pupils engage with each other's work?

EVALUATION

- What has been learnt?
- What do the pupils understand and know that was not evident before?
- What can they do now that they could not do before?

DEVELOPMENT

- What happens next?
- What happens to the work afterwards?
- What do the pupils do with their new understanding and skills?

This learning sequence is explained in further detail in this section. The next section on **projects** in schools shows how it has been put into effect. The section following this focuses on particular **study methods.** The final section reflects on the experience of **working together.**

introduction

When introducing a project to pupils, it is important to take account of their previous experience of built environment studies, their knowledge of architecture and environmental design, and the knowledge and study skills they already possess. An introduction should motivate and excite pupils and capture their interest so that they are keen to undertake the project. It is helpful to start off with an outline of the bigger picture to contextualise the project, before narrowing down to specifics.

A PowerPoint presentation will be of great value here to identify key ideas and to prompt discussion on the issues to be explored. Or perhaps a clip from a television programme might spark debate. The key to success is to keep inputs short and focused. These need to be followed up immediately with question and answer sessions, short discussions, list-making, post-it sessions or practical experiments for pupils to be able to assimilate ideas and develop a clear focus.

Other ways of introducing a study are to invite local residents, councillors or built environment professionals to share their views on a local issue or a proposed development, such as a public space, a building development or landscape area.

One of the most useful experiences for older pupils is to see a portfolio of drawings, maps, plans and designs developed by an architect or landscape architect and for the designer to use this to talk pupils through the design process. Urban designers may also be prepared to share their work on a current development. Seeing examples of drawing, photography and 3D used as part of professional practice gives pupils an idea of the kinds of techniques involved and places their own work in the context of real life experience.

What are the key questions?

The teacher needs to influence the discussion to create a framework for sharing concepts, to introduce new ideas and intellectual challenges and tease out different viewpoints. An important responsibility is to clarify the key questions that need to underpin the project. The use of flip charts, post it displays or a whiteboard, with pupils helping to record, analyse and explain, will be useful here in clarifying the ideas that need to underpin the study and the questions that will frame the fieldwork.

What is the focus for study and scope of the project?

The introduction should outline the scope and parameters of the study, make clear what the learning objectives are and create a framework for study.

- What do you hope that pupils will learn?
- What experience, knowledge and skills will the project build on?
- What new knowledge will pupils acquire and what new skills will they develop?
- How will you ensure the work is important and relevant to pupils?

Make your reasons clear. Explain what will be involved. Pupils work best when they understand what they have to do, how they should do it and why it is important. Pupils should generate questions, ideas and suggestions so that the approach to the project is negotiated, and they take responsibility for their own learning from the outset. Creativity does not emerge later in the learning process. Questioning, wondering ***What if?*** and ***How to?*** are important elements in creating a certain frame of mind to enable pupils to be receptive to new experiences and new ideas.

Key questions for the teacher must be:
How to extend pupils' experience of the built environment?
How to deepen their understanding?

desk research

Pupils may need to undertake desk research before embarking on the fieldwork or questions might emerge in the course of the fieldwork that pupils need to address.

They should be able to use a range of sources of information from:

- Maps
- Plans
- Books
- Photographs
- Design magazines
- Technical journals
- Internet

Desk research relies not only on words and numbers, and the ability to collect facts and figures. It also involves reading drawings, maps, plans and photographic images, involving skills of analysis and organisation, synthesis, interpretation and explanation.

Pupils will need to know something of the history or geography of an area and to understand key issues relating to environmental change to help them in their investigation. Knowing about similar developments elsewhere will inform their thinking about their own project. They may want to know more about the work of a contemporary architect or learn about the use of materials in construction or find out about the built environment in other countries.

Sources of information

What previous knowledge and imagery can pupils draw on to inform their own work? Historical maps are a fascinating source of information about how places have changed over the years. A comparison of maps of different dates can help pupils trace how an area has developed.

Local authority librarians and archivists will be able to advise what is held in their collections and what copies might be made available. Planning departments can alert schools to current and planned developments and sometimes are able to share material with schools. It is best to be specific when requesting help and to agree a time and method for pupils to seek information. Local history collections of photographs and material relating to social life are a rich source of imagery. Images of what their environment is like now can be obtained

from tourist information, local newspapers, estate agents, as well as pupils' own photographs.
All these, together with the use of libraries and the Internet will help pupils to extend what they are able to learn from direct experience.

Desk research will be part of the ongoing study and reference material should be on hand for pupils for information and stimulus. Teachers might wish to post material on an internal school computer network that students can download and access for homework. All this will help pupils develop research skills, make use of references from secondary sources and nurture their intellectual curiosity. It will generate new ideas, help them make connections and encourage them to develop the habit of collecting evidence and references to provide valuable stimulus and support for their own work.

Archive

All this material, together with pupils' work, will create wonderful resources for other pupils too. Digital media and the use of computers have made it so much easier to archive material, both text and visual. Work generated by pupils can be recorded with digital photography or scanned into the computer, then used as reference by other pupils. Doing this can make the work of small groups available to the whole class or to other classes. Data entry, cataloguing and information retrieval are important ICT skills. Using these to create resources for others provides opportunities for pupils to develop their skills and use them in a very practical way for the benefit of others. This extends the notion of the school as a learning community and learning environment.

fieldwork

Preparation

The first priority is to establish the focus and subject for study and the learning objectives. Teachers need to identify a suitable study area and make a preliminary exploration to gauge its potential as a learning environment. What kinds of study activities will extend and enrich what can be done in school? What will be the purposes of the fieldwork? How will students be expected to carry out explorations and investigations? What are the practical considerations? How long will each investigation take?

Each local authority has its own requirements for study outside school. Risk assessment is an important part of the teacher's preparatory visit. The usual school protocols need to be followed for health and safety. Many schools send letters to parents at the beginning of the autumn term, explaining that certain courses require outside visits and asking parents to give their permission. Some thought must also be given to resources necessary to introduce the project, to support the fieldwork and as reference material for classwork. Briefing other members of staff, teaching assistants and parents may be necessary. Students using equipment should be familiar with how it works and have practised with it beforehand.

How will students travel to the study area and how long will it take? Will the journey form part of the study experience or is it just a matter of getting there and back as quickly as possible? If it is by school minibus or a coach service, double check with the driver the time and location of pick-up. If it is by public transport, has group travel been arranged beforehand? If the journey is on foot, what will be the stopping points for observation and recording information? What arrangements are in place if anything goes wrong?

On the day

Much of the preparation for the fieldwork will be done long before the day. However, there are a few last minute checks that need to be done – final decisions about the study activities, depending on the weather, and a double check of materials and equipment. Maps, questionnaires, study sheets and sketchbooks need to be contained safely in rainproof folders that can also be used to lean on; black biros are useful for recording information, as they make a definite mark, do not get blunt and are easy to photocopy. Make sure students understand what is expected of them and how they are to carry out the study. The fieldwork brief needs to be clear about what they have to do and how they are to do it. Be explicit about the school's expectations of codes of dress and behaviour for work outside school and reiterate health and safety instructions.

Organisation

Do not underestimate the importance of first impressions. Use short exploratory activities to help pupils get to grips with the site quickly. Include both subjective and objective study methods. There should be an initial exploratory activity to help students tune in to the environment and begin to focus on specific study tasks. It is helpful to establish the parameters of the study site, remind students of what they are expected to do and the time available. Other teachers, teaching assistants and parents might be involved, so it is important that they understand what is expected and are able to join in with the activities.

Key activities for pupils include observing and recording information and trying to analyse key elements and relationships from the complex and sometimes confusing material they encounter. It is important that pupils understand how the information will be used, so that they record sufficient information to use as a basis for classwork later.

classwork

Feedback

The first session in class or the studio is introduced by a report-back and discussion arising from the fieldwork, so that the whole class can share ideas. This will happen throughout the project.

Reflection

Everyone may share a similar experience, but different pupils will have their own perceptions of it.

In the classroom or studio, the first task is for them to make sense of their experience, to re-work it so that they can understand it and connect it with what they already know, and begin to assimilate new experiences and ideas. Artwork is useful here, to create a synthesis, and enable pupils to express a personal, emotional response to place.

The fieldwork will involve both objective and subjective study techniques. This might result in identifying the characteristics and qualities of the place as it currently exists. This will involve a feeling response. Developing artwork provides an opportunity for this to happen, when pupils are able to re-work their experience and explore a personal, emotional response to place.

Interpretation

Interpretation in drama or music can imply an attempt to invest a character or a musical piece with meaning or to indicate one's own particular conception of it. The same is true of the built environment. It is full of messages and meanings, but these are not readily accessible until we attempt to 'read' the townscape and understand what it is saying to us. Emphasis should be on the content of the ideas as well as the ways in which they are expressed, so that the meaning can be shared.

Analysis

In the classwork, pupils have an opportunity to see the full scope of the information and ideas they have collected from the fieldwork. They need opportunities to share this with each other, and to analyse this to be able to describe the existing site before they are able to evaluate the material. Descriptions may take the form of annotated sketches, maps, plans and annotated photographs that communicate what the place looks like, how it is used and what the key elements are.

Pupils might make short presentations summarising their findings, with each group reporting on different aspects of the study. They will draw on the material that they have generated through the fieldwork and also make use of secondary reference material. It will also give them experience of short verbal presentations and question and answer sessions, which they should lead. The purpose here is not so much to test what they have learnt as to nurture intellectual curiosity. Issues about aesthetic and design qualities will arise. These will prompt further discussion and naturally lead to critical study, when pupils make judgements about environmental quality.

To facilitate this, a temporary display of the reference material, field notes and framework for analysis is very useful for pupils to be able to see at a glance all the information they need. It acts as stimulus and prompt. This display can be added to, changed and replaced as the work progresses. Pupils should play a full part in this. The display of their work shows evidence of development of thinking and provides valuable feedback to pupils. Everyone will feel more secure and be able to work more effectively if the same workspace is retained throughout the project, ideally a space where all the class can gather, as well as areas for small group working. The need for display and storage of material, as well as the availability materials and equipment and access to computers and whiteboards, should be addressed at the outset.

critical and contextual studies

Critical study

In their fieldwork, pupils will have discovered things that they liked and those they disliked, things that worked and others that did not. They may not have been aware of it, but they would have been making judgements about environmental quality all the time. The words critical, criticism and critique are derived from the Greek word *kritos*, a judge. This implies weighing evidence and passing judgement as to the value of something. In built environment projects, critical study can be about aesthetic and design qualities as well as social impact or economics.

- *Aesthetic* is about sensory experience.
- *Design* is about how the environment is shaped and managed.

Skills of analysis and appraisal are brought into play when pupils are asked to make value judgements about a building or a space and to identify the need or opportunity for change. They need to make judgements about aesthetic or design qualities, to form opinions and discuss them with others. The process of critique might be started by a discussion of what pupils liked and disliked. But personal preferences are not sufficient. Not everyone will like or dislike the same things.

Useful questions to ask are:

- What are the positive and negative aspects?
- What should be the criteria for judgement?
- How are they able to apply these criteria to their experience of a place?
- Can pupils clarify the basis on which their judgements are made?
- How do they express their opinions?
- How are they able to support their argument with evidence?

Criticism is not only about making judgements or having opinions, but is also being prepared to explain or justify these. It is where pupils make clear the basis for their judgements and try to explain how they have arrived at them. Through this process, they can become more articulate about design. What opportunities do pupils have to talk about how the environment is designed? How are they able to develop a descriptive, analytical and critical vocabulary?

Critique can be developed through small group discussion. Groups can compare their findings, and perhaps a class consensus can be agreed, so that there is a shared basis for the next stage in the design project, when pupils need to identify the need or opportunity for change. This will form the basis for formulating the design brief, which will be a prompt for design activity.

Contextual studies

The project will necessarily involve contextual studies, so that pupils can learn from the work of artists, architects and environmental designers. This knowledge will help pupils set their work in context and gain greater understanding of the social, historical and cultural background. It will also make them more confident in making value judgements about quality, as they will have some basis for comparison.

Contextual study is important for pupils to place their particular experience of the environment against a wider background. Knowing more about why the environment has come to be the way it is will throw up questions and help them think about what it might be like in the future. Seeing how artists have been inspired by their surroundings and how they have interpreted the environment, or understanding more about work by architects, landscape architect and urban planners in shaping the environment will help pupils see the larger picture.

It is not only architectural masterworks that are of interest. A study of ordinary, everyday building, or vernacular architecture, can prompt questions about personalisation and adaptation. Building styles reflect changing economic conditions and fashion, developments in technology and shifts in values.

design activity: generating ideas

The design brief poses the problem that pupils need to address when they are asked to develop proposals for change and improvement. Design activity challenges them to conceive of something that has not existed before, to transform or adapt something, or to work within an existing convention to come up with something new.

Design activity includes:

- Identifying a need or an opportunity for change
- Generating ideas and testing possibilities
- Considering alternatives
- Developing and refining proposals
- Presenting proposals

Design activity develops young people's abilities to hypothesise and to visualise possibilities as yet unknown. Imagination and fantasy are important here, as are technical skills, to generate, develop and test out ideas before putting them into effect.

Problem identification and problem-solving require young people to make connections, develop insights, make informed guesses and follow up hunches, which might also involve empathy and intuition.

Design activity is about seeing new relationships or alternatives, learning to shape and control the environment, planning ahead and problem-solving, making choices, making decisions and visualising how things might be.

While some of the work is best conducted through individual study, other parts of the project need to be developed through group work. Social and interpersonal skills are required in team-working and shared decision-making. Every design decision involves conflict and compromise. Through designing, students learn to deal with disappointment, frustration and failure.

Generating ideas

In the first instance, ideas can be wild and wonderful – 'blue-sky-thinking' is a way of describing this – when anything is possible. An 'ideas storm' can kick start the process, when everyone suggests possibilities for change, but no one makes any judgement as to whether the ideas will work or not. The need at this point is to encourage divergent thinking - diffuse, free flowing and imaginative. A class discussion can prompt this, with possibilities noted through list making or

a post-it display. Small group working can follow, when pupils choose some of the ideas generated by the whole class group and flesh out some possibilities.

Pupils develop their initial ideas as concept designs. These may be in the form of annotated sketches, overlays, modified photographs or sketch models. Skills of experiment and visualisation are brought into play here. It is the ideas that are important, rather than how they are expressed.

Ideas can be tested out through discussion and debate, and compared with alternative possibilities, to enable pupils to decide on those they might develop. Pupils from other classes may be invited as consultees. Pupils explain the existing situation and outline their proposals for change. They use the feedback from other pupils to influence the next stage of their design. They need to recognise the strengths and weaknesses of their initial proposals and modify them appropriately. New ideas will emerge in the course of discussion and will be informed by further exploration of the work of architects and other environmental designers or through reference to historic precedent.

The challenge now is for pupils to develop and refine their proposals so that they address the problem successfully and their ideas make sense to other people.

design activity: developing ideas

Developing, testing and refining ideas

The next stage is for pupils to develop, test and refine their proposals.

Key abilities that are developed are the ability:

- To visualise possibilities for change
- To consider alternative possibilities
- To test out and evaluate ideas
- To work as a member of a team

When pupils have decided which of their initial proposals should be developed, it is helpful for them to re-write their design brief, to clarify what they wish to achieve.

Using concept sketches or models as prompts, they then invent ways of working with materials to develop their thinking further. They might choose to increase the scale to show more detail. They might wish to create a series of drawings, maps and plans to show different aspects of their design. They might wish to create a more detailed model where they can try out different configurations or layouts, perhaps recording these through digital photography, so that it is easy to compare alternatives. Experiments through the use of mock-ups, prototypes and maquettes are very useful at this stage.

Testing

Pupils not experienced in design work tend to fix very quickly on a single idea without considering alternatives. They find it difficult to expand on their idea or test it out. They need some knowledge of other examples. They also need to 'think outside the box' and make connections that may not at first be obvious. Design activity involves experiment, happy accidents and creative failure. Group work can offer support, helping individuals deal with disappointment and frustration. The key is to think positively and creatively, to try another avenue of investigation or alternative approach. Teachers and pupils appreciate the dynamic quality of the work, allowing ideas and direction to change. Project work allows pupils to experience the difficulties and complexities of designing a building or a space. There is a great deal of excitement and ingenuity involved in making one's ideas convincing and capable of being understood by other people.

Group work

Group work is invaluable here, when comments, questions and suggestions from other pupils can help shape an individual's thinking. It can also enable pupils to work collaboratively, exploring different viewpoints, sharing ideas and helping each other. Each has something different to contribute in terms of ideas and skills. Group work can also give pupils valuable experience of learning how to express a point of view persuasively, disagree politely and share decision-making.

Feedback

It is not only interaction and feedback from other pupils that are important. Pupils need support and direction from the teacher – asking questions, reinforcing key ideas, extending pupils' thinking, suggesting sources of reference and additional considerations – or offering advice on how to work through an idea. The teacher needs to encourage and support, but also to challenge and stretch pupils' thinking. Again, critical comment does not dwell on the negative, but takes account of strengths and weaknesses to arrive at a balanced judgement. Pupils welcome practical suggestions as to how they can improve their work, particularly ideas and the strategies to overcome blocks to learning. The next challenge is to decide how to modify their design in response to feedback.

presentations and exhibitions

Visual

It is important to invite pupils to present their work through a display or exhibition. This allows them to see how their particular efforts fit into the larger picture. Through planning and preparing a display, they are able to synthesise the various elements of the project and see how the ideas fit together. Creating a display or exhibition formalises their learning and obliges them to clarify their thoughts so that they can express them clearly. It crystallises and reinforces what has been learnt.

Throughout the project, all the drawings, photomontages, diagrams, maps, plans and models are primarily for the benefit of the pupils, to help them imagine, shape, test and develop ideas. When creating a display or exhibition, the intention is different. The task now is for them to communicate the results of their efforts. The viewer or listener must be able to understand the ideas.

- What elements should be chosen?
- What should be left out?
- How can the work be best viewed?
- What aspects need to be explained?

Planning presentations to peers or invited adults focuses the mind very quickly and reinforces what has been learnt.

Verbal

It is also important that pupils have opportunities to make a verbal presentation about their work and to engage in critique, when they are asked questions and invited to respond to comments on their project. Pupils need practice in talking about their work and listening with interest and respect to presentations of the work of others.

It is important that pupils know how to engage in critical debate, when they are able to structure an argument and make a case for their ideas, developing valuable oracy skills.

It is also important for them to learn to be reflective and to be able to evaluate their own learning. They should be able to comment constructively on what worked or not and indicate ideas that emerged as the project progressed. Most importantly, they need to learn how to disagree politely and construct an alternative argument.

If local people have contributed to the study, they will be delighted to be invited, together with parents, governors and councillors, to a presentation and exhibition and to be able to talk with the pupils about their work. The experience of presenting their work to 'critical friends' makes pupils feel their work is valued and validated. It also puts it in a more formal setting, when adults are listening seriously to what pupils have to say.

The results can also be shared through the preparation of leaflets and posters, or disseminated through the school magazine and on the school's website.

Public

Some enterprising schools make use of display opportunities in more public places such as libraries and shops. In some instances, pupils have been able to make presentations to councillors and local authority officers as part of the consultation on local development. In these instances, it is not only the content of the ideas that is important, but the way in which they are expressed. It is likely that this will be in the form of a PowerPoint, video or booklet, supported perhaps by a small display. Pupils are not only reporting on what they have learnt, but are seeking to persuade officers and members to take account of their views. They need to present these clearly and persuasively. Placing their work in the public domain means that presentation needs to be of a high standard. It shows the local community that young people are concerned about their environment, that they care about it and that they are able to think imaginatively, creatively and practically about the process of change. It shows young people that their community is interested in them and their ideas.

evaluation

Evaluation is something that thoughtful practitioners are doing all the time, making judgements about the quality of their work. They do this intuitively, instinctively, as a matter of course. How else do they know what to do next, unless they are continually monitoring what is happening, making judgements about it and making decisions about what happens next? Evaluation needs to be built into the process of development. The need is for teachers to monitor both their own efforts and those of their pupils, and to take a questioning, reflective and critical stance.

Formative evaluation happens at the beginning of a project when the teacher makes clear the learning goals, explains how these might be achieved and negotiates with pupils how best to tackle the project.

During the project, the teacher monitors the work in progress and provides feedback both to individuals and to the group to influence how they are thinking about their work, to help them understand the ideas involved and to enable them to learn more effectively. At each stage, pupils and teachers need to decide what happens next through taking stock of what has been learnt so far and deciding how best to use that knowledge or those skills as a basis for the next step.

At the end, summative evaluation creates an opportunity for pupils and teachers to reflect on the total experience and to recognise its educational value – what has been learnt.

- What are the learning outcomes?
- What is the evidence?

The learning outcomes are not the maps, plans and models that the pupils produce. These are primarily evidence of learning activities. Learning outcomes are to be found in the knowledge, understandings and skills that pupils have developed. The project will have involved different kinds of study skills and different kinds of thinking. The evaluation should take account of the process of learning and the progress made.

- What do pupils understand now that they could not understand before?
- What do pupils know now that they did not know before?
- What can pupils do now that they could not do before?

Teachers will be concerned with differentiating between good, satisfactory and poor quality work. This is normally done for the purposes of assessment. What is more useful to pupils is for the teacher to feed back comments on their performance as learners and to suggest strategies as to how they might improve on this in the future. For instance, discussion might focus on strategies for research and investigation, pupils' ability to follow instructions or to experiment with ideas, their ability to contribute to group discussion or to communicate their ideas in a formal presentation. All these situations require different skills and capabilities.

Teachers sometimes find it challenging to assess the work of individuals where this has been developed as part of groupwork. This is where it is important for pupils to be involved in the evaluation, so that they can identify the contributions made by individuals to the group effort. They can also be involved in assessments, where the criteria that underpin the judgements are clear – depth of research, careful analysis, clarity of thought and expression, original ideas, inventiveness in the use of media – the need is to decide what qualities are important and to identify appropriate evidence.

Both teachers and pupils benefit from being involved in evaluation and being reflective about their work. Pupils benefit from understanding more about the ideas and learning processes that have underpinned their efforts. It also helps them recognise what they have learnt and be more able to apply the knowledge and skills in other contexts. Evaluation helps the teacher find out if the project has achieved its aims, whether the learning and teaching have been effective and provides valuable feedback about how they might support similar learning activities in the future.

celebration

Environmental design projects lend themselves to celebration. Where they have involved parents and other people from the local community, it is helpful to have some public expression and recognition of what has been learnt and to feedback to people who have given time and effort to help pupils. So often in schools, we hurry on to the next project or turn immediately to something else on the curriculum that needs to be covered, and do not always take the opportunity to recognise pupils' efforts and achievements, except through formal examinations.

A celebration can be a simple affair after the final presentations, when those invited can stop to talk informally with the pupils and enjoy some refreshments. Learning should be pleasurable and satisfying and so too should sharing it with others. Assemblies provide other opportunities for pupils to feel their efforts are appreciated, and a round of applause is an excellent start to the day!

Putting the work on display in the school so that other pupils can learn from it is a public acknowledgement of good work. Care needs to be taken in the selection of items for the display and how they are presented. It might be necessary to provide some explanation or interpretation of what the project was about and how the different parts connect. The display can be augmented with photographs of pupils engaged in different study activities. In some cases, it might be better to photograph 3D work where it is too fragile to put on view.

Another way to celebrate is to share the project with a wider public. The local library, a shop window that can be used as a gallery, or indeed, an empty shop that can be turned into a temporary exhibition space are all places where pupils' work can be put on show. This validates the work and gives pupils a greater sense of achievement.

Digital technology creates opportunities for celebration with an even greater public through the use of the school website. Schools are finding that it pays to show people what happens in the school, to celebrate success and create a pride in pupils' work.

projects

STREETWORK // CLASSWORK // ADULT SUPPORTING LEARNING ACTIVITY

STREETWORK // CLASSWORK // GROUP WORK // ADULT SUPPORTING

projects

The projects described in this section were developed by secondary schools and their feeder primary schools. Pupils from both phases dealt with the same subject matter and used similar approaches to study. For ease of reference, reports on the work of primary and secondary pupils are presented separately. Where there was a high level of interaction and collaboration, the project report refers to both schools. It is not possible to present full details of each case study. Instead, certain methods of working have been highlighted to exemplify particular approaches and learning strategies.

Aims

All of the projects aimed to introduce pupils to environmental design. Each took as its starting point a local development. Central to all the studies was the idea of change, as well as experience of the design process.

Sites

Study areas were within easy travel distance of the schools. They included town centres, riverside and seafront developments, and a vacant site near a motorway junction, a school site and pedestrian routes in the local neighbourhood. They exemplified a range of urban development issues, including pedestrian safety, conservation of heritage, provision of arts and leisure facilities, commercial development, new uses for old buildings, riverside and seafront regeneration.

Project management

Projects satisfied requirements of the National Curriculum in geography, art and design, design technology, citizenship and PSHE and contributed to the development of both visual and verbal literacy. A key aim was to give pupils experience of the environmental and design issues that they might face as citizens and to help them develop the motivation and skills to participate in influencing how the environment might be shaped in the future. Pupils had opportunities for individual study, small group working and class activities. The adults involved acted as guides and facilitators, modelling ways of analysing and appraising the environment, and developing proposals for change.

Study methods

Study methods included work in two dimensions such as drawing and three dimensions such as constructions and models, as well as photography, digital media and the use of words, both the spoken word and text. All these were important in helping pupils to develop an understanding of the site, make judgements, visualise possibilities for change and communicate their thinking to others. Pupils focused on aesthetic and design qualities, but were also invited to take account of social and cultural issues. They had to consider the possible impact of their proposals for change and whether or not these would improve environmental quality. In some of the projects, pupils were able to present their ideas directly to local councillors, school governors and built environment professionals.

Knowledge and skills

Pupils gained some appreciation of the complexity of urban design and redevelopment issues. Through their efforts at design, they realised that there were many needs and constraints that had to be taken into account. Environmental design is not a matter of individual imagination, but an activity that involves a large number of people, and is influenced by social, economic, environmental and political considerations.

It develops:

- Observation skills and skills of analysis through fieldwork.
- Skills of synthesis and interpretation through artwork.
- Skills of synthesis, appraisal and critique, when pupils make value judgements about a building or a space and identify the need or opportunity for change.
- Verbal skills, including the ability to negotiate with peers, to formulate and communicate ideas, to express and justify their opinions, to explain ideas, to present work formally, to respond to questions, and to engage in argument and debate.
- Social skills, pupils working collaboratively in small groups and contributing to whole class sessions.
- Design capability, emphasising visual and spatial modes of learning, bring all of these into play, combining intellectual, technical and practical skills.

Study methods derived from the projects are explained in greater detail in the next section.

PEDESTRIAN ROUTES

Bidbury Junior School

AIM The aim of the project was to develop awareness of landscape design on routes to school and to feed back the views of 11 year olds to Havant Borough Council as part of the consultation process on local development.

INTRODUCTION

The class made a study of maps and aerial photographs of the area to see how the area had changed over the years. The project was spread over four weeks.

STREETWORK

Pupils plotted their journeys to school on a map, then worked in small groups, each group making a different journey to investigate pedestrian routes to school, with everyone taking note of what they liked, hated, always looked out for, what they would like to change and why.

CLASSWORK

In class, the walks were traced on a large-scale map. Pupils made memory maps of what they had seen, recording both good and bad features.

Then they studied images of key views from one of the walks. A question and answer session helped them explore issues that had emerged from all the journeys, such as volume of traffic, safety, views and site lines, crossing points, natural form, street furniture and signage. Working with a collection of A4 outline sketches as prompts (based on photographs taken on the route), pupils made annotated sketches to point out problems and communicate their opinions.

STREETWORK

Pupils then explored another route to the leisure centre. They stopped at certain points to observe, complete worksheets and discuss their observations of spatial quality and landscaping. These included consideration of sightlines, views, safety measures and barriers for pedestrians, signage, positioning of street furniture, natural form, surface materials and maintenance. The challenge here was to find ways to analyse key features of complex views and record information quickly. They rated their response to particular places.

CLASSWORK

The challenge then was how to assimilate all this information. Each group had a section of an aerial photo, an OS plan and a set of photographs they had taken on the walk, together with a one-metre length of lining paper. All the pupils participated in making a space-line of the journey, Working in groups, they annotated photographs to identify problems and also added some solution sketches, building up a massive display of different kinds of information to illustrate their walk, including map, photographs, sketches, annotations and designs.

PRESENTATION

The space-map produced stretched across the playground, showing very graphically the extent of their analysis. Pupils had an opportunity to present their work to other pupils and also to councillors at Havant Borough Council. Their contribution to a video made with pupils from a neighbouring comprehensive school raised key issues from their investigation.

OUTCOMES

Making a study of a familiar area can be challenging. The need is to find ways to look again at what we take for granted and see it with fresh eyes. This is what happened in this project. Through a variety of media, working with photographs, maps and drawings, pupils were able to reconstruct and reflect on their experience, making it possible to analyse and appraise landscape features. Their knowledge of the local area increased, and they were more prepared to question why things looked the way they did, rather than just take things for granted.

Participants:
Ingrid Corrigan, Valerie Webster, *teachers*
Robyn Butcher, *landscape architect, Terra Firma Consultancy*
Gary Cassey, *video filmmaker, Cass Productions*
Jane Kilford, *artist*

This was an inspiring and beneficial project. The curriculum subjects covered were geography, design, English (speaking and listening), art and citizenship. The project gave the children a focus at the end of their final year at Bidbury and an opportunity to work outside school. Some had a chance to work with those who would be their new teachers next term at the secondary school. I have seen my neighbourhood in a different light and have been really pleased to establish stronger links with staff at the secondary school ***(teacher).***

I am used to speaking in front of people about projects, but had not appreciated the difference between the attention span of a planning committee and 11 year old pupils. Every word counts! ***(landscape architect)***

TOWN CENTRE

Fox Hill Primary School

AIM The aim was to enable pupils to appraise their environment and propose improvements.

A class of thirty 10 -11 year old pupils were invited to consider ideas for improvement of public space at Charles Square, Bracknell Town Centre, during a week-long project.

INTRODUCTION

The teacher did preparatory work with the class, looking at how Bracknell Town Centre had changed over the years. Discussion then focused on what changes they thought might be appropriate now, and who might benefit from them. As homework over the half term holiday, pupils consulted their families about these ideas.

A presentation by the architect on street furniture and the different uses of materials introduced a specific focus on design. A presentation by the artist showed how she used the environment as stimulus for her work.

STREETWORK

The children worked in groups to consider different features of the town centre, focussing on shops, pedestrian routes and natural form. They made use of maps to orient themselves and recorded their likes and dislikes through annotated sketches. With some help from the adults, they recorded information on digital photographs for use as reference material.

CLASSWORK

Pupils prepared ideas boards of sketches, maps, photographs and notes to pull together the information and ideas they had gleaned from the streetwork session. Although they had begun with an appraisal of townscape qualities on the basis of their own likes and dislikes, they soon started to think about the space from the points of view of a variety of users. The discussion that followed generated ideas for improvement.

The experience of model making brought a very practical emphasis to the work, where pupils explored ideas for change. Working in 3D made it easier for them to understand concepts related to space, scale and positioning. Pupils appreciated the opportunity to make sketch models, and then develop and refine their ideas in presentational models.

The group thought about the experience of people moving through the space, and pupils were concerned that there were places where people could sit and rest and talk to each other. Their design activity focused on creating ideas for seating in public places. The architect showed the children how the CAD 'SketchUp' programme translated into computer images their ideas of paths, covered walkways and a bandstand. Pupils found this feedback very exciting and satisfying.

PRESENTATION

As well as writing about their proposals, the children made presentations to pupils in the secondary school. The project came to an end in a public display of pupils' work in a shop in Bracknell. This gave an added dimension to their work, when pupils could see that what they did in school had relevance for the local community.

OUTCOMES

Working in groups involved the use of different kinds of language. Children had to tell, explain, justify choices and persuade others to share ideas. From time to time, they changed roles, so that different people took the lead to direct the activity. The project extended pupils' thinking and obliged them to look again, perhaps in a different way, at a place with which they were familiar and which they took for granted. It developed skills of analysis and judgement, requiring the use of both visual and verbal language. They realised that design has an impact on how people experience a place and how they perceive it and that they can make a contribution to what that place might be like in the future.

Participants:
Becky Teale, *teacher*
Jacqui Poncelet, *artist*
Neil Armitage, *architect, Format Milton Architects*

Children appreciated the single focus during an entire week. The project included a wide range of cross-curricular activities. I had hoped the children would see how designs became a reality and how it felt to be part of a creative design team. The project extended their thinking, which became more ambitious, and they were able to anticipate the possible impact of their designs on other people ***(teacher).***

VACANT SITE

Manor Farm Junior School

AIM The project aimed to develop pupils' awareness of their locality and an understanding of urban design processes. A particular aim was to imagine the impact on inhabitants of any development of a vacant site. Skills to be developed included those involved in social interaction and collaboration, working with ICT and design (mapping, scale drawings, modelling).

9-10 year old pupils at Manor Farm Junior School in High Wycombe focused on The Gateway Project under consideration by Wycombe District Council, where the plan is to develop leisure facilities. The site is close to a junction with the M40, where there is already a supermarket and cinema. The project was carried out during an activity week.

INTRODUCTION

Presentations from the artist and built environment professionals introduced the ideas and the approach to study. Pupils learnt how artists and architects might map a site, and considered Richard Long's 'Walking in Circles' and 'Pictorial Maps' by Nigel Long. They saw how it was possible to combine text and maps, and that it was important to have an emotional response to landscape to develop a sense of place.

Pupils got a feel for the area through studying maps and thinking about the different uses of the land surrounding the site and how these had changed over time. Pupils compared maps from 1960s, 1970s and 2005 to understand the context of the site, to identify landscape features and land use, to understand the use of mapping conventions and the notion of scale. In discussing maps, they considered elements such as: boundaries of space, uses of space, routes through space, views out, surroundings, vegetation and how these might be represented through the use of symbols. Very importantly, the pupils tried out mapping techniques on the school grounds before studying the vacant site.

FIELDWORK

The class walked around the perimeter of the site, as it was not possible to access the area because of health and safety. They made annotated sketches and tried out various mapping techniques, such as text maps. The direct experience gave pupils a sense of scale. Discussions on site helped them understand issues and start to consider possibilities for development.

CLASSWORK

Pupils made memory maps using symbols. First of all, they concentrated on identifying features of site, understanding topography and spatial relationships. They produced scale plans, first by hand, then using a computer. Their appraisal took account of both positive and negative features of the site. They took inspiration from magazines, photographs and examples of work by landscape architects. Pupils worked individually and in six small groups, each being expected to feedback to the whole class. The use of an adjacent classroom was helpful, enabling the groups to spread out and have space to work.

Each group worked hard to contribute a section to a large-scale map of the site. Prompts and questioning from adults helped pupils remember the different kinds of information they should include. There was a lot of negotiation between pupils.

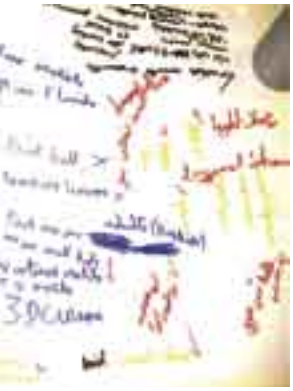
Their maps helped them develop models of the site. These were both physical models, made of paper, card and paint, and virtual models, using the computer. The landscape architect demonstrated CAD 'SketchUp', a computer programme that transforms drawings into 3D images which can be manipulated to show a 360 degree view. Pupils worked in small groups with him to produce a visualisation of their proposals for change. They were able to use the interactive whiteboard so that a drawing pen could be used, allowing two children to work on the model at the same time, one to drive the mouse and the other to draw directly. Others in the group directed the activity. Pupils were also involved in report writing for their presentations and evaluating their work.

PRESENTATION

The pupils prepared a PowerPoint presentation to explain both the process of design and the ideas underpinning their final proposals. Their ideas focused primarily on the needs of children for play and adventure. They demonstrated the use of 'SketchUp' and showed a video of the project in action.

OUTCOMES

Pupils learnt that there are many stages in urban design, and that it is important to consider local requirements, current land use and infrastructure. They realised that design has to consider the needs of local residents of all ages and ethnic groups. They learnt the importance of drawing to scale, but found this difficult. They made use of different techniques for modelling their thinking. They learnt new vocabulary related to urban design and developed skills of interpreting and making maps. Verbal skills improved through a variety of situations requiring them to talk to peers and adults, with the final presentation bringing into sharp relief the skills required for public speaking.



Participants:
Katherine Redman, *class teacher*
Alison Peacock, *deputy headteacher*
Cath Rive, *artist*
John Willerton, *landscape architect, Jacobs Babtie*
Jeremy Wagge, *architect, Jacobs Babtie*

The variety of practical activities was important for this age group. Pupils enjoyed the site visit. They came alive once they were designing on paper and 3D and using their imaginations. Children 's confidence and imagination grew as the project developed. They enjoyed using an ICT package that architects use. The project was demanding and advanced, but the children coped well with this. It ensured that they understood the benefits of collaboration ***(teacher).***

The role of the teacher was central to structuring the project and managing timings of the activities. Also bringing the class together to discuss, share information, lead class discussions and communicate ideas to children. Pitching the activities at an appropriate level and being responsible for behaviour. The role of the artist was to enable children to visualise their ideas ***(artist).***

An interactive whiteboard pen proved invaluable, allowing kids to draw directly on to a large projected image instead of huddled round a laptop. It seemed to be a fun activity for them and they all managed to get a reasonable representation of their design drawn. I was overwhelmed by how quickly they got to grips with SketchUp 3D modelling. Considering the complex nature of the site, all the children involved managed to add elements to the survey model and finally their design. They seemed comfortable with using drawing icons and drafting with the mouse. However, things really took off with the interactive whiteboard, as the pen allowed them to draw straight on to the model on the board. I would love one for my office. Even completing a simple model seemed to energise the children and they often bragged to their friends at break times which bit they had completed. The fact that I was able to leave the software with the school for the kids to work on independently shows how competent they were at using the progamme ***(architect).***

I have found a new respect for teachers! After spending only a short week in the classroom, I found myself exhausted and glad to be back in my relaxing office. The intensity of the experience and the concentration needed to control a class of pupils is incredible – and this was a relatively well behaved class. It quickly became apparent to me that the kids had really good valid views and opinions on quite complex urban design issues. It was just a case of giving them the tools to express themselves, and giving them confidence to use them. But this also showed a difficulty in the process – how to guide children without being too prescriptive – and without standing back too far – not enough guidance leads to confusion and frustration ***(landscape architect).***

PERFORMING ARTS CENTRE

Bitterne Manor Primary School

AIM The aim was to create a link between the secondary school and one of its feeder primary schools, so that the school pupils could work together and learn new ways of thinking by collaborating on a design proposal.

10 and 11 year old pupils from Bitterne Manor Primary School worked with secondary pupils at Bitterne Park Secondary School to consider the feasibility of a performing arts centre on the secondary school site. The project took place during one week, 8.50am – 2.45pm each day.

INTRODUCTION

The architect introduced the ideas and established the outline framework for the project. During work in progress, he also provided photographs and video images as stimulus and demonstrated study techniques.

FIELDWORK

These were also demonstrated by the artists. The first task was to explore the existing secondary school site, to make an analysis and appraisal of the spaces they encountered, to search out possible locations for the new development. Pupils worked in pairs to carry out survey work around the school. They used cameras to record their likes and dislikes, as well as making thumbnail sketches and notes in sketchbooks, which they loved doing.

CLASSWORK

Pupils worked with drawings and sketch models to develop ideas, thinking about what might be the purposes of a performing arts centre and what materials would be suitable for its construction. The design activity was developed in stages, each workshop leading on to the next part of the design process. Pupils were constantly challenged to be innovative and original. They worked individually or in pairs, carrying out surveys, recording information and designing. The models were used to explore ideas. Pupils spent a lot of time thinking through sketch designs and discussing the possibilities and constraints.

FIELDWORK

The project was documented through photography and video. An ongoing newspaper report was written by the architect and displayed on a plasma screen for pupils to keep a check on what was going on.

PRESENTATION

Pupils made a display of their work and presented it to other pupils, parents and others from the community. After the formal presentations, they were able to discuss their work with adults, and respond to comments and questions.

OUTCOMES

There was development of thinking skills and an understanding of the design process. This brought into play skills of imagination and invention, resulting in a huge increase in confidence. These, together with positive attitudes, meant that pupils understood that being innovative and creative is not about thinking what you cannot do – it is about what you can do. It is about not being afraid to try new ideas.

Pupils learnt new vocabulary and developed good communication skills. They learnt how to compromise and to engage in negotiation and joint decision-making. They learnt new technical skills in handling materials to work in 3D. They developed new social skills through meeting and working with pupils and adults outside their school. Most importantly, they learnt about the need to compromise, as it was important to take account of the needs of others.

Participants:
Gill Keenan, *Year 6 teacher and Inclusion Manager*
Alistair Gentry, *performance artist*
Adam Lamprell, *musician*
Andy Siddall, *architect, Civic*
Mark Drury, *Solent Centre for Architecture + Design*
Phil Turner, *Planning Aid South*
Pam Moore, *Planning Aid South*

Initially the children were very excited by the ideas. But were desperate to make models and design. When they realised they had to carry out research their excitement waned a little, although they eventually seemed to understand the importance of this. Once they were able to start getting their ideas onto paper they became very motivated again and by the time they were making models and presenting them they were very excited. Now I understand the design process, I would explain this to the children to avoid the dip of excitement in the middle ***(primary teacher).***

My intention was to work with the group on the 'soft' ideas, as opposed to the hard practical architectural ones, associated with the built environment. By this I mean ergonomics, human scale and usage, movement, emotional responses and the initial and early stages of creative thinking. I hoped to build the creative and interpersonal confidence of the students, both for their presentations and in the long term. I work very practically and physically to convey ideas, so I was always asking students to get on their feet and look at their environment and themselves. I felt this was a good contrast to more exacting, intellectual and paper-based activities offered by the architect ***(artist).***

BANDSTAND SITE

St Peter-in-Thanet CoE Junior School

AIM The aim of the project was to consider ideas for redeveloping the site.

10 -11 year olds from St Peter-in-Thanet CoE Junior School in Broadstairs made a study of the Bandstand site, Wellington Crescent, Ramsgate, Kent, a listed grade 2 structure designed in 1939, situated opposite a Regency terrace built in 1817 and 1824. The work developed over eight lessons.

INTRODUCTION

A PowerPoint presentation provided a short introduction to the history of the site. Pupils looked at the space on a plan and made use of maps to determine what facilities were available in the surrounding area. They worked out questions to ask councillors and members of the Residents' Association about plans for the area.

STREETWORK

The initial exploration invited a personal, emotional response from the pupils. They sketched details and features that they liked and recorded the textures of vertical and horizontal surfaces. They used cameras to photograph areas they wanted to remember and took a series of photographs to create a panorama, as well as views looking out from the site and looking into the site. They recorded on plans routes around and into the site on plans. They conducted a simple noise level check at different points around the site and marked the results on their plan.

CLASSWORK

The pupils drew memory maps of what they remembered from their visit to the site, focusing on both positive and negative features. Creating paintings enabled them to reflect on their experience and develop a sense of place before starting the process of site analysis and appraisal. They met with a member of the Residents' Association. They drew annotated sketch designs and used plasticene to develop sketch models of their initial ideas. These were shared with the class and pupils discussed drawbacks, giving reasons for their advice. Then they developed their ideas further, taking on board any criticisms.

Educational considerations in the development in the project were:

- Listening to and following through instructions
- Motivating individual needs
- Each pupil having an active role in group situations
- Working together to produce a collaborative presentation
- Site visit to develop a feel for the site
- Research and investigations were carried out using structured tasks
- Set tasks enabled pupils to collect visual information, take photographs, make drawings and clay impressions
- Pupils used this information as a basis for developing ideas

The design activities involved included:

- Imagining and drawing
- Drawing through a viewfinder, measurement and mapping
- Taking photographs
- Finding textures from a photographic image
- Clay pressing
- Painting
- Model making
- Collaborative working
- Group presentation, using visual and verbal communication techniques.

PRESENTATION

Pupils made a display of their work and added photos taken at the site to get an overall picture. This prompted consideration of social issues and the different groups of people who might use the site, with the needs of different ages, gender and disability being taken into account. Dioramas were an excellent device to communicate ideas, which pupils explained further through a PowerPoint presentation.

OUTCOMES

Pupils explored different ways to experience and perceive a place, making use of both subjective and objective modes of study.

Participants:
Sara Prosser *teacher*
Ruth Cutler, *artist*
Andy Evans, *artist / designer*

The project has reminded me of how capable and imaginative children can be at dealing with complex subjects. Young people have a very valid perspective on the use of urban spaces, which as a designer, I need to understand in order to give a sense of sustainability and inclusion to the work I undertake. The project was very refreshing in its opportunities to engage with young people's sense of immediacy, compared to the more detached approach that develops from working in a professional capacity. My own sense of professional and creative satisfaction certainly thrives by working in situations that allow for collaboration between professions and different social / age groups ***(designer).***

HOUSING DEVELOPMENT

Temple Mill Primary School

AIM To explore the elements in a housing development

11 year old pupils at Temple Mill Primary School made a study of the Strood Riverside Development to consider how the station might be seen as a gateway to the area, and integrated into pedestrian routes. The project lasted a week

INTRODUCTION

PowerPoint presentations prompted discussion about Strood Riverside.

STREETWORK

The day continued with lunch at the Riverside, followed by a tour of four areas: the lock gate, the station, the river and the park. Worksheets helped pupils focus their attention on particular aspects and qualities. They used drawing and photography to record examples of good and bad features.

CLASSWORK

Pupils referred to the drawings and photographs to reflect on their experience and explain what they thought was positive or negative about the area. They made a photomontage to explore the character of the townscape. The introduction of images of buildings by the artist Hundertwasser brought into play new possibilities in relation to form, colour and the use of materials.

Each group had a large map and were asked to consider the positioning of residential development. This was challenging for younger pupils. They felt that planning should not be considered only with housing, but should also take account of people's needs for open space and children's need for outdoor play.

Four groups were established for pupils to visualise their ideas. Working on the models, which were closely related to the large-scale map, helped them see relationships between structures and spaces and raised issues about density. Creating a photomontage prompted discussion about the use of materials and the variety of architectural styles. Paintings suggested artists' impressions of the proposals.

PRESENTATION

Preparing a PowerPoint presentation obliged pupils to reflect on the ways in which they had worked and enabled them to explain their thinking. They saw that their designs had developed from impractical ideas to more realistic and buildable schemes.

OUTCOMES

Pupils had experience of analysing and designing a site layout and learnt how difficult this is. The project offered an opportunity for young people to participate in the process of developing a live site and to voice the views of children – one group that is usually absent from the consultation process.

Participants:
Jane Bright, headteacher
Chin Keeler, Emma Tornero, artists, Wonderlux Visual Chemistry
Ivor Samuels, architect
Julian Walker, urban designer, Medway Council

The teachers' skills ensured that through practical work, experience would translate into real understanding in the minds of the pupils ***(artists).***

I believe it is important to engage pupils at as early an age as possible in understanding how their living space works and is produced. This sort of work needs to be grounded in the pupils' own understanding of locality ***(architect).***

We changed places and added housing. I must say we did find a lot of things to change. I did not like walking there and back because of all the hills and stuff ***(pupil).***

I most enjoyed doing the model on my own, with some help from Rebecca on the painting ***(pupil).***

I liked designing houses because I could make them look bright and strangely shaped ***(pupil).***

I did the PowerPoint presentation. I thought it was really fun. I was partners with Luke. We worked really hard on it. He was not there on Friday, so I had to do some of it myself ***(pupil).***

SEAFRONT SITE

St Leonards C of E Primary School

AIM The aim of the project was to consider proposals for new uses for the former Bathing Pool site and contribute to the local authority's consultation.

10-11 year old pupils made a study of a seafront site at the West Marina, St Leonards on Sea. Currently a large area of rough grassland, it had been the site of one of the biggest outdoor bathing pools in the UK. The local council had been considering plans for redevelopment for some time. The lessons took place during a four-week period, and the site was within easy walking distance of the school, so pupils could make further visits if they wished.

INTRODUCTION

As an introduction to the project, pupils did some historical research, making use of aerial photographs and historical maps. The aerial photographs were particularly popular. The children were engrossed in them, excited by the relationships between photographs and maps. They also looked at photographs of the site over the years, particularly its use as a bathing pool in the 1930s and the 1950s. A PowerPoint presentation summed up some of the key issues the children would have to deal with when considering possible changes.

STREETWORK

Pupils made extensive use of journals to make annotated sketches. Inspired by the artists, whose studio overlooked the site, they made a collection of matchbox mementoes, collecting small traces of the place – grass, seeds, little stones – and photographed the area. Having a sandwich lunch on site created more time for pupils to sit and contemplate the view and draw it on postcards and to chat informally about what development might improve rather than destroy environmental quality.

It was difficult to appreciate the scale of the site, so pupils measured the perimeter with tape and created a site map. They made a survey of land use of the surrounding buildings to help them consider ideas for development. The issue was whether future development should serve the needs of local residents and workers, or should it address wider needs of the area as a whole. The children conducted interviews with local

shopkeepers, making use of a questionnaire they were helped to develop by SeaSpace, the SEEDA-sponsored agency coordinating the wider regeneration of Hastings and Bexhill. The responses alerted pupils to wider regeneration issues.

CLASSWORK

The information gathered on the site visit was then revisited and assimilated in the classwork. During the discussion that followed, the children had lots of ideas for development, but found the scale of the site rather intimidating. They decided to work on a collaborative model, each group responsible for a one-foot square, so that they could incorporate a range of possibilities to address some of the issues that had emerged from the responses to the questionnaires. However, as the work progressed, issues about children's play dominated their thinking. From time to time, there were short presentations of work in progress, when pupils explained what they were planning and were questioned on the advisability of their ideas. Imaginative responses were welcomed, and the children certainly showed inventiveness in using materials, but as in all design activity, a 'reality check' was useful from time to time.

PRESENTATION

The class presented their proposals to members of the Borough Council, SeaSpace, parents and teachers at the University Centre Hastings. The pupils appreciated the opportunity to make a formal presentation and to be able to talk with adults about their ideas.

OUTCOMES

Pupils learned that people have different ideas and priorities as to what is important in regeneration – new jobs, new facilities, opportunities for education, recreation and leisure. They found it difficult to address the needs of all the different stakeholders, so concentrated on play provision for younger children, as they felt that this was their area of expertise.

Participants:
Penny Nice, *teacher*
Carol Powell, *Deputy headteacher*
Sonja Wyndham-West and Patrick Jones*, artists, Electro Studios*
Simon Barker*, architect, Barken Shorten Architects*
Polly Thornton and John Williams, *SeaSpace (SEEDA)*

We were greatly enthused by the project, which was of local relevance. It developed a wide range of experiences and skills. There was a staged approach. Presenting their ideas to a large audience was an exciting challenge for the children. They really enjoyed presenting their ideas to an audience and the venue made this special for them ***(teacher).***

We hoped that this project might demystify both art and architecture. We were not worried about a finished product. The pupils grasped the idea that although what they might propose would not literally be built, their ideas were of great value and might be listened to ***(artists).***

PUBLIC SPACE

Mayfeld CoE VC Middle School and Ryde High School

AIM The aims of the project were to consider the proposal for pedestrianisation of St Thomas's Square and to negotiate an imaginative future for the space. It was hoped that pupils would develop new perceptions of public space and an understanding of the collaborative design process.

St Thomas's Square in Ryde was chosen as the study site for a joint project between Mayfield CoE VC Middle School and Ryde High School, as proposals for its pedestrianisation were being considered by the local authority. The project was carried out during three afternoons and five days, during the Macromondo Art Week and the Ryde Art Festival.

INTRODUCTION

A briefing by teachers introduced the project.

STREETWORK

Pupils visited Winchester and the Hat Fair, focusing on public spaces around the city. It was hoped that a visit to another place would help pupils look again with a fresh eye at their own environment. They made drawings on 'space frames', acetate set in card frames. They made lists to remind them of the activities and uses of the public spaces they encountered, noticing the behaviours of large numbers of people as they moved around the central area. Pupils also considered how their perceptions of a space altered as they moved through it and how the atmosphere changed.

On a second expedition, pupils studied St Thomas's Square in Ryde. They used sketchbooks to record information and to practise different approaches to documenting space, capturing sensory impressions such as textures, sounds, feelings, shadows, movement and inhabitation through annotated sketches. They also attempted different kinds of measurement to formulate a physical description of the space and made attempts to map the various uses of the space, pedestrian movement and traffic flow. Seeing the place from different viewpoints created frames of reference and made pupils aware of the orientation of the buildings, of light and shadow. They also recorded information through digital photography.

CLASSWORK

When they met back at school, pupils reflected on their experience and began to organise the material they had collected to analyse and appraise the space, summarising positive and negative features of the Square. Maps of pedestrian movement, light and shade and land use and the photomontages showing panoramic views of buildings and spaces, provided different kinds of descriptions of the space and how it was used. A survey of traffic revealed that 10 cars per minute passed through the space in one direction.

There were daily feedback sessions and explanations about the purposes and nature of the work for the day. Central to the briefing and de-briefing process was the involvement of the pupils. The intention of making them active participants was to increase their engagement in the activities, reinforce what had been learnt and allow them to share the results with colleagues. This increased their confidence and developed a shared understanding of what was going on.

The next step was to consider the potential for transformation, with pupils investigating the representation of space and possibilities for change, playing with ideas for introducing new buildings or other changes to the Square. Pupils experimented with photomontage to imagine future scenarios. These were not so much realistic proposals as images to prompt creative thinking. They were not intended to be practical solutions to problems they encountered. Rather, they were imaginative scenarios to raise more general issues about the nature of public space. Various kinds of models were developed to enable pupils to test out their ideas for change. Playing with different forms and trying them out on the scale models, drawing on to photocopies and creating photomontages helped pupils visualise what their proposals might look like.

PRESENTATION

Pupils were most involved in the planning towards the end of the week, particularly in deciding how their work should be presented to visiting dignitaries. This was a challenging process, but ultimately fruitful, as they not only gained ownership, but also learnt about a key element in the design process – presentation to the public and how to sell your ideas. They presented their ideas to councillors, school governors and the project architect.

LEARNING OUTCOMES

Pupils learnt about the ingredients that make a good public space. They developed study skills – how to gather information, analyse and test subjective impressions. They benefited from varied ways of working when developing design ideas and learnt how to work as a member of a team. Very importantly, they learnt patience to pursue a process. Pupils felt they were given an opportunity to influence the way their town was being shaped, but were frustrated that it might be too late for their views to have any impact.

DOCUMENTATION

A group of four 15-16 year old pupils worked with a film-maker to document the project and produce a short video documentary to explain the work in progress. This gave experience to young people who might wish to pursue a career in media. They were able to work with broadcast standard camera and editing kit and to work within a professional environment when editing. They learnt about camera shot types and what these would look like for an audience. They had to research and plan the programme and think about conventions of the genre and narrative structure, taking account of different audiences. The time constraints were very tight.

Pupils took part in planning meetings, but had to be flexible, as the project was dynamic and constantly changing. Before the project started, pupils played different roles as members of the production crew and interviewees to develop interviewing skills. This enabled pupils to get to know each other better and for the film-maker to assess their capabilities. It was important that pupils had creative input and control over what they were producing. It was necessary to introduce learning in a developmental way so that students felt they could manage an activity, then progress with the next bit of information, skill or technique. This was accomplished through practical, hands-on tasks.

The pupils produced an eight-minute film, having worked really hard. They learnt about the challenge and constraints of working in the film industry as well as the techniques and processes required in producing a video documentary. They learnt about teamwork and compromise as well as the need to stay true to the concept of what they planned to produce. The film was broadcast on Solent TV on the 'Fresh Air' series, which gives access to community groups, and was also shown on Sky TV.

Participants:
Gill Price, *teacher*
Hannah Snelson, *geography teacher*
Julie Duffin, *media teacher*
Trish Bould, Belinda Mitchell, *artists, Mitchell Bould Partners*
Dave Gibbons, *Winchester School of Art*
Paul Bulkeley, *architect, Snug Projects Ltd*
Mark Drury, *Solent Architecture Centre for Architecture + Design*
Jo Drake, filmmaker, *Solent TV with Year 10 students*
Matt Dunkinson, *photographer*

Combining the two age groups was very successful. Most pupils from small middle schools find the transition to high school challenging. Having worked with high school pupils, my pupils now felt reassured and looked forward to going to the high school ***(middle school teacher).***

Although the overall aspirations were achieved, the specifics of the programme had to be adapted and moulded from the very first day. Many of the plans went out of the window. Central to the success of the project was the ability of the team to respond creatively to the changing constraints and opportunities generated by external circumstances such as the weather and the dynamics of working with 30 pupils from different age groups.

Education is always a privilege. Seeing the pupils engage with an increasingly enthusiastic response to the programme as the week progressed was very satisfying. It was both challenging and stimulating working with the artists in developing and implementing the programme. This aspect of the project would have significantly benefited from more time at the front end and would I am sure be easier if we were to do it again. The project has contributed to my understanding of collaboration and enhanced my appreciation of play as part of the design process. I would do it again ***(architect).***

I learned that squares are important public spaces and need to be used more and enjoyed. I found making surveys and building the model to help with the planning of a new environment most satisfying. However, I was frustrated after we spent a week doing surveys and making models and plans that we showed to the Council, it appeared that our ideas were turned down and the Council had already made their own plans and were putting them into action ***(pupil, 14).***

PEDESTRIAN ROUTES

Warblington School

AIM The project developed over four weeks and aimed to:

- Increase pupils' awareness of the built environment
- Extend awareness of pedestrian routes around Havant
- Promote pupils' sense of ownership of the built environment and help them recognise their power to influence its design
- Develop skills such as mapwork and communication.

12 and 13 year old pupils at Warblington School in Havant made a study of pedestrian routes in the local neighbourhood. This was prompted by the experience of the railway line cutting through the area, dividing rather than connecting people and place, and making access to facilities difficult for some residents.

PREPARATION

Teachers made a video (filmed from a car) of various routes to school. The landscape architect prepared PowerPoint presentations. A collection was made of design magazines, product literature and street furniture brochures. Aerial photographs of the area and copies of an OS map, 1:25000 scale, and Superplan of Havant obtained from Havant Borough Council were allowed strictly for use on the project (Terra Firma holds an OS licence).

INTRODUCTION

The project was introduced through a study of maps and aerial photographs of the area for pupils to see how the area had changed over the years

STREETWORK

Areas for study were selected from the results of pupils mapping their routes to school. One group went to a central Havant road junction to study vehicular and pedestrian movement, particularly safety and design features. Another group made a study of the route to the leisure centre, making a note of what they liked, hated, always looked out for, and what they would like to change and why.

CLASSWORK

The project concentrated on an in-depth analysis of these routes and ways to improve them. Pupils studied images of significant views on the walks. They compiled a sequence of images and notes to trace their journey and analyse the landscape features. The results were presented as a long photomap that stretched across the classroom. Through question and answer sessions, pupils were helped to critique the landscape features. Following this, they prepared solution sketches to address the problems they had identified, using landscape design publications as reference.

VIDEO

As preparation for filming, short presentations were made by the filmmaker, focusing on how to use cameras and laptops and create PowerPoint presentations, followed by initial training on handling the video equipment.

Pupils were involved in planning for filming the route between the school and leisure centre. They had to consider the variety of experience, stopping points, questions and possible answers and the key ideas to be communicated. Pupils worked in small groups with the filmmaker, using two cameras, and a smaller camera was also used to record footage of pupils at work, to contribute to the evaluation of the project. Pupils had the chance to operate different equipment and also took it in turns to be interviewer and interviewee. Pupils had input into the editing process, when they saw how a film was shaped and were able to make suggestions for the final cut. The key consideration was how to construct a narrative.

PRESENTATION

Pupils were invited to the screening of the video at the Council Chambers for councillors from Havant Borough Council, teachers and parents, to respond to comments and questions.

OUTCOMES

Pupils learnt new ways of looking at the built environment. They developed skills of judgement in relation to the environment and use of expressive media. They extended their technical vocabulary and skills of photography and filmmaking. They developed confidence in speaking in a variety of situations.

Participants:
Lin Pook, *deputy headteacher*
Vanessa Meyer, *art teacher*
Richard Wharton, *geography teacher*
Robyn Butcher, *landscape architect*
Jane Kilford, *artist*
Gary Cassey, *video filmmaker*

The project made great demands on the student in a number of ways. They had to develop their own thinking skills and then be able to verbalise their ideas. They had to look at their environment in a way they had not experienced before and try to find solutions to problems. Working with the landscape architect was really important because so often students think that adults / teachers have all the answers. The project changed the perception and confidence levels of students. It improved working relationships between adults and students and changed students' perceptions of their place within the school community. They realised that school is not separate from the wider community. It gave them an opportunity to engage in a real life activity, with the tangible outcome of the video and the experience of their ideas and opinions reaching a broader audience ***(teacher).***

I had no idea that so much time was spent on discipline and sheer organisation in schools. The red tape seemed to be over the top and permission slips from parents seemed to be a big stumbling block and bugbear for the teachers. I was relieved to see that they were not worried by my fire fighting approach to session organisation and that they appeared to do this themselves! If I was doing this again I would be more aware of the whole teaching situation and the sheer enormity of the responsibilities and tasks that the teachers have to deal with. I'd try to take as much of the pressure off them as possible so they could almost sit back and enjoy. This would involve really capturing the children's imagination and attention so that required discipline was at an absolute minimum ***(landscape architect).***

I was disappointed by the traditional approach taken by many pupils to the environment (play park, flowerbeds) and was surprised by the amount of weight they put on security and restriction measures (double yellow lines, traffic wardens, fencing). But I should not have been. I should have shown them more solutions ***(landscape architect).***

It surprised me how interested the pupils were in both learning new ideas and expressing themselves in order to make a difference. They were quite passionate about some of the issues ***(video film maker).***

TOWN CENTRE

The Brakenhale School

AIM The aims of the project were:

- To improve pupils' skills in asking questions
- Develop a range of study skills
- Encourage pupils to work independently and collaboratively
- Be able to reflect on their experience.

14 year old pupils from The Brakenhale School made a week-long study of Bracknell Town Centre to explore how it had developed in the way it has, what it is like now and how it might be reshaped in the future.

INTRODUCTION

Pupils were introduced to the project by means of a questionnaire to prompt initial thoughts on the town centre and what makes a good public space. The architect and artist made PowerPoint and slide presentations to sketch in a range of ideas for pupils to consider about the use of space, materials, lighting, furniture and decoration.

STREETWORK

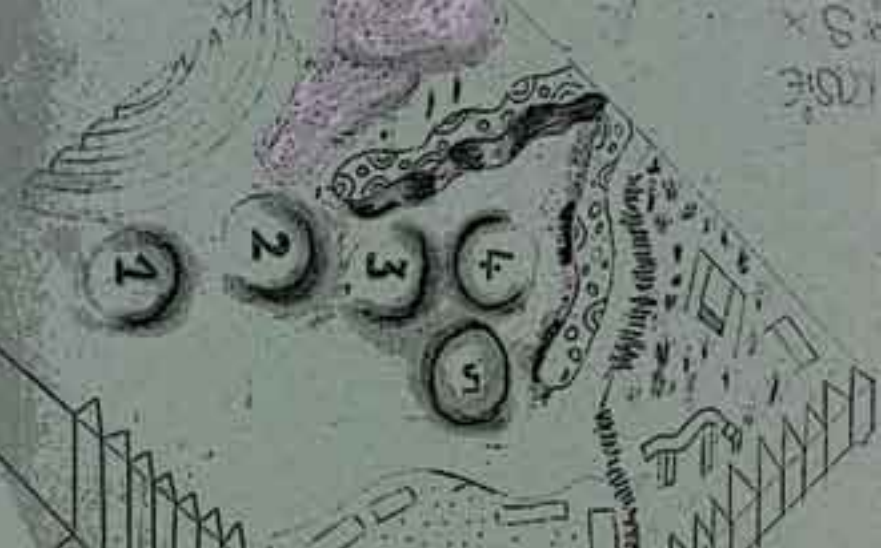
Pupils worked in groups to observe and record different aspects of the space through drawing and photography:

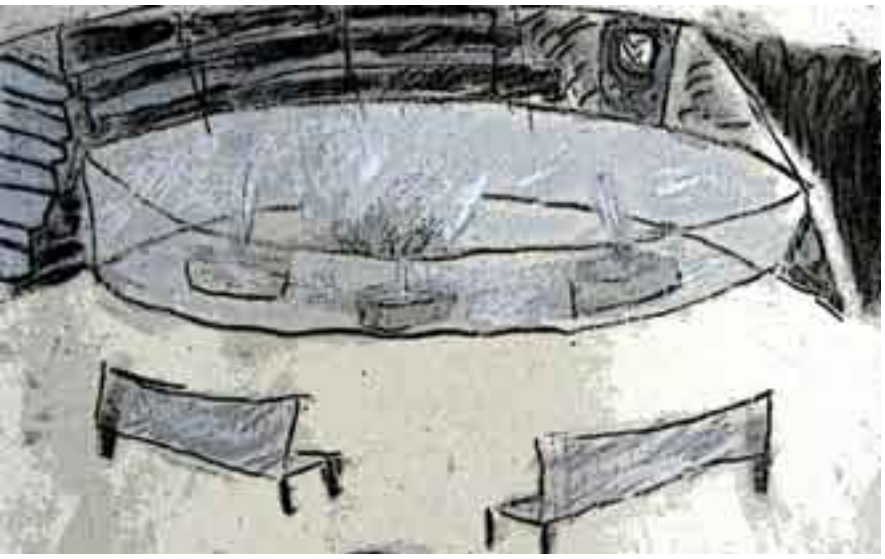
- Access and circulation, particularly paths and walkways
- Green areas and landscaping
- Use of materials in buildings and surfaces
- Water features
- Street furniture
- Climate
- People and activities.

CLASSWORK

The information from the streetwork was used for reference in classwork, when pupils created mood boards to summarise their impressions and observations and made presentations to explain their responses to the town centre space.

They then worked on sketch models to think about possible changes to improve townscape quality. Many of them focused on features that would serve as focal points in the space, such as street furniture and public art. This offered opportunities to think about how to symbolise ideas and produce something that would enhance people's experience of public space. The translation of their sketches into computer images brought their ideas to life for them. They were then able to develop and refine their ideas and create drawings and models for display.





Participants:
Katie Staples, *Head of Art*
Neil Armitage, *architect, Format Milton Architects*
Jacqui Poncelet, *artist*

A lot of thought and work goes into designing things. You have to think about all things and it's more than we expected ***(pupil).***

The project opened pupils' eyes to social issues and the different needs of the public who use the town centre. It has increased their perceptual and analytical skills by making them think outside the box. They seem more confident in making judgements and understand the process of design more fully. Working in groups has given them the freedom to build on one another's ideas and make use of particular knowledge and skills. Pupils enjoyed working in two and three dimensions. The project improved their ability in visual communication. At first, they found it difficult to talk about their ideas, and did not have appropriate vocabulary. They found the concept of scale difficult until they were able to view their ideas through a CAD presentation ***(teacher).***

The project has reinforced my belief in the importance of education ***(architect).***

PRESENTATION

The display in a town centre shop was an opportunity to showcase the work. This emphasised it was a live project and made pupils feel their work was worthwhile.

OUTCOMES

Although the subject was a complex one and the scale of the project too big, pupils learnt techniques to analyse and appraise spaces and to generate and test out ideas for change.

PERFORMING ARTS CENTRE

Bitterne Park School

AIM The aim was to broaden the curriculum and discover new insights about design. Opportunities for pupils to work alongside professionals and to make stronger links with the community were bonuses.

14 year old pupils studying art and geography at Bitterne Park School in Southampton, a specialist school in performing arts, explored possibilities for the design of a new performing arts centre. The project was carried out during a design activity week.

INTRODUCTION

An architect introduced the project. He explained what was required and outlined the scope of the research, workshops and design activities that would be involved.

FIELDWORK

The first exploration was a visual survey of spaces in the school. Pupils made use of their bodies, voice and movement to investigate space and relate this experience to the needs of a performance space. Artist-led workshops included using human bodies:

- to map and conceptualise the real scale of buildings and spaces
- to carry our experiments in acoustics using students' own voice;
- for image-making
- to help conceptualise circulation spaces, entrances and exits needed for performers and a performance space
- to demonstrate how groups of people clump, gather and form herds and lines
- to carry out physical experiments with different shapes and sizes of audience and different spatial relationships between performer and audience.

CLASSWORK

Presentations of visual material were made throughout the week to kick-start sessions and to provide pupils with stimulus and reference material. Pupils were asked to record written reflections, documenting their subjective and objective responses to site. Questions and issues around the nature of a performing arts centre were continually explored. 'Blue-sky thinking' was encouraged to generate ideas and possibilities for development,

where there were no strict parameters or predetermined outcomes.

In developing their proposals, pupils first made a vision statement about the nature of the problem they had set themselves, then used this to develop a project brief, which specified what the design would try to achieve.

Developing sketch models to outline the ideas that underpinned the final design was a very exciting and enjoyable phase. This was part of the feasibility study, requiring a very broad-brush approach. These initial ideas were discussed and critiqued, and pupils had to explain and justify their choices and decisions.

The next phase was the concept design, when specific proposals were made to test ideas. Again, this was done through peer review and critique. Proposals were shaped and refined through the use of more developed models together with a range of drawings, including sections, elevations and plans to show spatial relationships.

PRESENTATION

Pupils made an exhibition of their work and presented their ideas to staff, parents and governors. They made a PowerPoint presentation, encouraged people to study the display and responded enthusiastically to questions and comments on their work.

OUTCOMES

In learning about a new area of study, pupils experienced the difficulties and complexities of designing a building as a real project. They gained some understanding of the complexities of the design process and learnt more about environmental design and the decisions that impact on it. Many pupils had to learn a new

vocabulary and develop greater confidence in expressing their ideas. They also gained improved social skills of interaction and cooperation.

Pupils learnt something of the life and work of artists and architects beyond the obvious of designing a building or making art. They saw that there are rules, conventions and assumptions as well as freedom, and also that they had to convince other people of the value of their ideas. Pupils acquired habits of working in a constructive and responsible manner, individually and within a group. Most importantly, they started to develop an inquiring attitude, an inquisitive eye and a sense that their ideas had value.


How Bitterne Park School works. . .
Behind the scenes with Shaping Places
BitterneParkNews


So if you had to build the new Performing Arts Centre, what would you use?

Participants:
Zoe Churcher, *head of art*
Karen Watler, *geography teacher*
Sally Stevens, *drama and community arts coordinator*
Alistair Gentry, *performance artist*
Adam Lamprell, *musician*
Andy Siddall, *architect, Civic*
Mark Drury, *Solent Centre for Architecture + Design*
Phil Turner, *Planning Aid South*
Pam Moore, *Planning Aid South*

The project was an opportunity to design a particular building for the school rather than for a public amenity or space. Whilst the students did develop an inclusive brief, being sensitive to their community and to the possibilities of an extended school agenda, thinking for the new building was limited by the school staff concentrating thinking on the quad. Most of the students favoured a more public site on the outer limits of the school grounds and closer to entrances and paths. Students have a wealth of knowledge about what does and does not work. They are more than capable of considering their spatial environments and developing complex design proposals at both large-scale ideas and at a very detailed level ***(architect).***

At the beginning of the week, some of the students were disgruntled that they weren't straight into drawing and building models and that they had to do what they considered 'boring stuff', which included things like investigations of the site, having an idea in the first place, and a plan to work from. By the end of the week, I think that most of them understood that you don't get to the interesting stuff without doing the groundwork. Again, I think that some of them failed to see the point in doing things that seemed to them unrelated to designing a building. But the value of building confidence and social skills was very evident to me when I heard the difference between their reticent, monosyllabic squeaks on Monday and the confident, forthright opinions of Friday afternoon ***(artist).***

It is important for pupils to see and experience different ways of approaching problems. Too many one-dimensional ways of working can lead to less original thinking. Different approaches will also maximise the chances of all pupils being fully involved in the project ***(musician).***

The role of the teachers was to encourage pupils' learning and I felt that I took the natural role of moving some of the questioning and learning forward after the initial lead by the facilitators. A lot of the direction was appropriate for the pupils to understand, but at the times when needed, the teachers naturally re-worded or extended the learning to get the best from students ***(drama teacher).***

What is interesting and important as teachers is that we can see how we can make direct links between the work undertaken in the project and new schemes of work. I will incorporate some of the ideas used to study space into my lessons. I found it interesting to see how facilitators encouraged creativity, and instead of bringing pupils to focus directly on narrow ideas, he left them open-ended and told them that anything is possible, an idea which runs directly into drama. Although this can be quite dangerous, it showed me that maybe to focus the pupils too much at the early development stage may be more restricting ***(drama teacher).***

BANDSTAND SITE

Clarendon House Grammar School

AIM The aim of the project was to develop a sense of place and generate ideas for redeveloping the site.

13 and 14 year olds at Clarendon House Grammar School in Ramsgate made a study of the Bandstand site in Wellington Crescent, a listed grade 2 structure designed in 1939, situated opposite a Regency terrace built in 1817 and 1824. The work developed over eight lessons.

INTRODUCTION

A PowerPoint presentation provided a short introduction to compare the historical and present day uses of the site. Pupils looked at the space on a plan and made use of maps to identify facilities in the surrounding area. To explore the idea of developing a sense of place, the artist showed her photo-paintings, photographs of textured surfaces placed onto canvas and painted extensions of photographs of found objects.

STREETWORK

The initial exploration invited a personal, emotional response from the pupils. Pupils sketched the space and details of any features that they felt were important. They recorded routes around and into the site on plans as well as the views from the site, using viewfinders. They began to think about possibilities for change and improvement. To help them with this, they discussed the site with a member of the local Residents' Association.

On another visit, pupils concentrated on mapping. Each group of pupils was given photographs to find locations within the site and invited to record information about orientation, views and visual focal points, vehicular and pedestrian circulation, access points and zones of use, outside influences on the site, building usage and to think about possible restrictions or constraints on what the site might be used for. Information on materials and surface quality was recorded through taking clay impressions of surfaces, drawing and photography. Discussion developed awareness of social issues and how public space might be used.

CLASSWORK

Pupils collated and discussed the information and ideas using 'mood boards' and made plaster casts from clay texture impressions taken from the site. Then through discussion, they explored possibilities for development.

Groups ideas-stormed initial ideas for possible future uses of the site. They did this through drawing sketch plans and zoning diagrams of the site. They presented their ideas briefly to the rest of the class and responded to questions. Proposals for change were developed through models, drawings, photographs and paintings. Pupils worked in groups of six, learning to make decisions together, and agreeing on areas of design work to be progressed on an individual basis while supported by the group overview. Model making and a final presentation of work was undertaken as a group activity. Each group organised their own working methods. The artist and designer brought portfolios of work to exemplify design processes and art techniques. They introduced new study processes to the project, explaining to the pupils by illustrating design ideas on a white board, or by giving practical demonstrations of art techniques.

PRESENTATION

An exhibition of the pupils' work was set up and presentations made to an invited audience.

OUTCOMES

Pupils developed analytical and critical skills and learnt how to sort out their ideas as a basis for designing. They thought about the needs of the different users of the site and the need to be sensitive to its historical importance. Pupils had to communicate with their peers and with adults. Critical skills were developed through discussion and argument, and social skills nurtured through collaborative groupwork. Communication skills were developed through collaborative work and presentational skills came into play at the end.

Participants:
Steve Wilson-Queen and Mike Browne, geography teachers
Jess Youle and Mark Ashdown, art teachers
Ruth Cutler, artist
Andy Evans, artist / designer

Pupils' comments

Our task was to redesign Ramsgate Bandstand to suit and occupy all ages and to draw in more people to the area. We then had to make a 3D design of our ideas.

Our project was to redesign the bandstand and the Wellington Crescent area, to make it more useful and friendly to the community.

We got into groups and discussed what was good and what was bad about it. Then we split up our group to work on one of the sections in a pair. Then we created our own designs of the bandstand and how we would like it to look in the future. Then we made a presentation to tell others of our ideas.

I learnt that I have more artistic talent and historical and geographical knowledge than I thought.

I learnt to work better in a team.

I learnt that before designing something you have to think about a lot of aspects with the project, such as people who will use it, environment around it and noise and space.

I learnt how to turn simple ideas into constructive plans.

I learnt that some areas that may be old and boring have an awful lot of history. Also that if you change certain parts of this feature, then the history may be lost.

We learnt to work as a team and participate by showing each other ideas and deciding the different ideas we would use. We also learnt about Wellington Crescent history and how to show our ideas. I learnt about the bandstand and the Wellington Crescent area a bit more. I learnt how to present ideas more clearly. Also, we learnt how to work together and put different people's ideas together.

I learnt how to broaden my mind.

Normally we use books and examples of towns and cities, but with this project we could observe a real place and actually find out what is going to happen to the bandstand.

It made you more involved and you could be creative with your ideas. It also was quite fun because of how imaginative you could be. Also it was not from a textbook.

Normally we study buildings or towns or cities from a book, but this project is real, and we can see all of the difference we have made.

It was a lot more practical and it was for a purpose.

I liked the 3D version of my project. Because I saw it all come alive, instead of just seeing it on a piece of paper.

I found putting everything together the most interesting bit so that we could all see our work together.

The satisfying part was seeing our project finished and ready for our presentation.

The most satisfying aspects of the work was to give our own ideas into a project that was actually going to come to life.

It was satisfying looking at the finished project and knowing that I had worked hard.

It was great getting to do our own thing and use our own ideas, because we could do whatever we liked and we didn't have to set our ideas on one idea for the whole of the class.

HOUSING DEVELOPMENT

Temple School

AIM The aims were to engage young people in a live development project, to enable them to understand the process of designing a housing development and help them to understand what makes a good living space.

14 year old pupils at Temple School in Strood made a study of Canal Road, a riverside development. The project took place during an activity week in the summer term.

INTRODUCTION

Pupils drew mental maps of Strood on acetate, identifying places that were significant to them or with which they had personal associations. These ideas were then placed as overlays on a large-scale map of the town for pupils to compare the different perceptions.

A PowerPoint presentation introduced pupils to planning and urban design issues and focused on the Canal Road site under development. This was followed by small group work using A2 maps with overlays, when pupils attempted to identify needs of different communities.

STREETWORK

The site visit enabled pupils to view the area from the perspective of the pedestrian. A worksheet, provided prompts and information, and the experience was recorded through drawing and photography.

Their appraisal focused on what should be retained or changed in relation to features such as; buildings, access routes, amenities, spaces between buildings, vegetation, lighting, safety, routes, views, points of interest, integrating old and new. Pupils had to decide what was important for a residential area and what elements and relationships were necessary in designing places for people to live.

CLASSWORK

Pupils reflected on the material they collected from the site visit. To help them generate ideas for change and improvement, they viewed a PowerPoint presentation by the architect, which showed examples of other projects. They then identified features of successful housing developments.

An input by the teacher on the artist Hundertwasser's work on buildings extended pupils' ideas about housing. To develop their thinking, pupils worked in media-based groups, making use of painting, model-making, photomontage and PowerPoint to develop their ideas. This involved them in negotiation, collaborative decision-making and compromise. The design activity challenged pupils' understanding of space and made clear the steps involved in the design process – information gathering, analysis, appraisal and generating ideas for change. Some pupils who had not been particularly engaged at first became more interested as the project developed.

PRESENTATION

An exhibition of their work, together with PowerPoint presentations obliged pupils to pull together the different aspects of their project and make their ideas accessible to others.

OUTCOMES

Pupils learnt skills of observation and analysis. They also developed different ways of synthesising and presenting their ideas, using a range of media.

Participants:
Rosina Young, *art teacher*
Mary Jo Ruxton, *teacher*
Kathy Fidget, *teacher*
Chin Keeler, *Emma Tornero, artists, Wonderlux Visual Chemistry*
Ivor Samuels, *architect-planner*
Julian Walker, *urban designer, Medway Renaissance*

In motivating pupils, it was important that they were working on a project that is happening in real life in an area that they know and where some of their friends live. The learning activities were interesting and new to them. They appreciated getting out of the normal routine of school and working with new people ***(art teacher).***

A project like this is potentially a wonderful vehicle for integrating a diversity of subjects. Sites have a history and geography and there is also a microeconomic dimension as well ***(architect).***

I learnt how much education has changed for the better since my schooling and that learning activities are now more exciting, vibrant and challenging ***(artist).***

Pupils learnt that different people in the community have different needs. This prompted discussion on issues about safety, tolerance and racism. They had to question things they took for granted – how much space do people need to live? What are issues relating to noise? Are gardens a luxury or a necessity? How much light is necessary? What is the importance of trees?

We learned that kids don't have a lot of self-belief when it comes to their ability to influence their environment and that they need a great deal of encouragement to express their ideas. They have difficulty in challenging accepted modes of thinking and to go beyond traditional concepts, especially when it comes to designing buildings ***(artist).***

In this project, I learnt how to make models and how to do 3D drawings. The artist helped me with things like planes and scale. It was different from other projects as we had more time and more help ***(pupil).***

I learnt that we can have a say when areas are being changed. Our ideas might not be put into action, but we can have a say. I learnt that by making an area more open and colourful with more lighting makes it a safer place to be ***(pupil).***

SEAFRONT SITE

Filsham Valley School

AIM The project was an opportunity for pupils gifted and talented in art and geography to develop their skills in a live project. The aim was to develop an understanding of the planning process and demystify art and architecture. Pupils were invited to formulate proposals for the redevelopment of the former Bathing Pool site. The project also provided opportunities for pupils to work alongside professional artists and designers and develop enterprise links with local businesses.

14-year-old pupils at Filsham Valley School made a study of the former Bathing Pool at St Leonards on Sea. This had been built in 1933 by Sydney Little, the Borough Engineer, and was one of the biggest pools built in the UK. The site became a holiday camp in the 1950s and after that, the pool was demolished. The site is next to the beach and a key element in the regeneration of St Leonards on Sea, which is coordinated by SeaSpace for Hastings Borough Council. The project developed over six a six-week period, half a day each week.

INTRODUCTION

A 'virtual' exploration of the site was made through reference to maps and photographs.

The material was discussed with pupils, who enjoyed comparing maps and tracking changes over time. They contributed anecdotes and family memories of the site. They consulted local history books to understand how the site had been used in the past. Pupils worked in groups to compile background material and fed back information to the rest of the class.

PowerPoint presentations by the architect and artists introduced pupils to methods of working and approaches that might be useful in the project. In addition, a small group was formed to document the project on video.

STREETWORK

The first task was to measure and mark out the site with hazard marking tape, working from old maps. A visit to the 1930s concrete beach huts and to neighbouring artists' studios raised issues about the use of the site. Pupils used various techniques to imagine the site as it had been and see it as it was now, collecting found objects, making sketches, keeping journals, creating postcards and taking photographs. A questionnaire developed by SeaSpace was used as a prompt for short interviews with shopkeepers and passers-by to glean local opinion on possible futures for the site.

CLASSWORK

Evidence from the streetwork was presented in a critique. A presentation by SeaSpace sketched out the regeneration process that had already been started in Hastings and St Leonards. Pupils responded with searching questions and were able to add much useful information to what they had collected on the streetwork. Following a class ideas-storm, they decided to work in groups to generate initial ideas. 'Blue-sky thinking' threw up possibilities such as a 'galleon' for pirate adventures, an IMAX cinema, restaurant, café, gift shop, battle park for nautical paintballing, crèche and art gallery. At an interim presentation of concept designs, other ideas were added to the mix – a rooftop swimming pool, paintball laser quest, spa and gym, fencing and martial arts, café, restaurant, and sea terrace. Discussion turned from what pupils wanted to what was needed to regenerate the area.

The young people felt that the presentation of spectacle was needed on this site. A PowerPoint presentation by the architect showed architectural precedents for large buildings that brought many diverse uses together within one structure. This input helped pupils focus on the purposes of spaces and relationships between them and had an influence on their proposals.

Pupils continued to work on models to develop a joint scheme, focusing on the variety of uses and thinking about the proposed building's impact on the site. Separate parts of the building were developed by different groups. Models were used as a tool for experiment and the development of ideas. They made clear the relationships between spaces in both horizontal and vertical planes. There was much discussion about use of materials for construction and the scale of the proposed development.

The experience of photographing models, considering viewpoints, the use of lighting and close ups helped pupils review their ideas, prompting discussion about spatial relationships between the building and its surroundings, and its possible impact on the site. Ideas were developed through building and photographing the models. They were not illustrations. The models reflected the thinking as it developed.

PRESENTATION

A presentation in a lecture theatre at Hastings University Centre with planners, local politicians and press as audience obliged pupils to formulate their ideas in a performance choreographed through structured presentations followed by informal discussions.

OUTCOMES

Pupils learnt that design requires compromise and conflict resolution and that every choice and decision has an effect elsewhere.

Participants:
Mandy Holbeche, *head of art*
Nicola Simmons, *head of humanities*
Sonja Wyndham-West, Patrick Jones, *artists, Electro Studios*
Simon Barker, *architect*
Polly Thornton, John Williams, *SeaSpace*

We wanted to demonstrate what architects and artists do is accessible and is often about thinking carefully about the nature of a challenge, allied to quite straightforward problem solving. However, we were also aware that we wanted the young people to set the agenda for the project to a large extent, and we aimed to be flexible enough to modify our approach as we proceeded. We hoped the outcome would be a proposal for how the site could be redeveloped. We had no preconceptions as to the form this would take ***(architect).***

Aerial photographs and comparison of maps proved popular. Pupils were clearly engrossed in them and capable of understanding the conventions of mapping and the relationship between maps and photographs. They gained a lot from working with art and built environment professionals who shared insights about the design process and supported pupils to develop their own ideas. Demonstrations and input were important to give pupils ideas and to model how to develop the study. Providing for different learning styles was the key to success. Model making avoids fixing on a single viewpoint. Use of maps and plans encouraged an overview and developed the ability to see the site in context, and visualise the proposed building in the space.

Use of recycled materials avoided the models being seen as 'precious' and helped to develop thinking, as they could be changed easily, emphasising ideas and narratives rather than things. Repeated opportunities to feed back to class gave pupils valuable practice in clarifying, explaining and justifying their ideas. Groups questioned each other on research, thoughts and plans. The final presentation stretched pupils to demonstrate excellent communication skills. Pupils understood that it is difficult to please everyone in planning. There is a need to achieve a good balance between 'blue sky thinking' and a more realistic and pragmatic approach ***(teacher).***

study methods

DRAWING // 3D // PHOTOGRAPHY // TEXT // DRAWING // 3D // PHOTOGRAPHY // TEXTDRAWING // 3D // PHOTOGRAPHY // TEXT

study methods

Environmental design projects involve a variety of learning styles. These require visual and spatial modes of learning as well as reliance on words and numbers. It is necessary for pupils to be able to work with a range of media:

- Drawings, diagrams, maps, plans
- Spoken word and written text
- Three dimensional media
- Photographic and digital media.

Whether on television or newspapers, video games or soap operas, our society is dominated by messages conveyed not only through words *or* images, but also by a combination of words *and* images. Environmental design projects encourage pupils to be articulate about the ideas that underpin their work and the issues they are exploring. Pupils have increasing access to digital media, cameras and computers, and welcome opportunities to put their skills to use. Both visual and verbal communication skills are becoming more and more important. Environmental design projects give pupils something to talk about and a means for their voice to be heard on environmental issues.

Different kinds of media and a variety of study methods need to be used to deal with the complexities of built environment studies. Teachers can draw on a variety of approaches from a range of subjects to support the different stages of a project, enabling pupils to record, analyse, synthesise, represent, hypothesise, make connections, express a personal and emotional response to place, think about change, imagine and communicate in a variety of ways. The methods used in streetwork investigations, in classwork, in design activity and in presentations can be adapted for use in any school.

DRAWING

- Codes and conventions
- Sketches
- Diagrams
- Drawing for design
- Drawing on photographs
- Maps
- Plans

3D

- Map-based models
- Sketch models
- Presentation models

PHOTOGRAPHIC, DIGITAL, VIDEO MEDIA

- Image archive
- Annotated photographs
- Photomontage
- Photomaps
- Digital image manipulation

WORDS AND IMAGES

- Vocabulary
- Surveys
- Questionnaires and interviews
- Analysis and interpretation
- Appraisal
- Discussion
- Presentations
- Display and exhibitions
- Newspaper, magazine, web pages
- PowerPoint
- Video and camcorder

drawing

Drawing can be used for a wide range of purposes in both the streetwork and classwork. It develops skills of observation and analysis, reflection and synthesis. It enables pupils to understand and to think, to work out problems and to communicate ideas and information to others.

Drawing is an active way of looking again at a familiar environment or getting to grips with unfamiliar surroundings. It helps make connections and encourages a personal, emotional response to place. Sequences of drawings are useful to show how a space changes as you move through it (serial vision) and drawings done from different viewpoints can reveal new perspectives of a building or a space. Drawing can also be a means of interpretation, when different media and techniques are used to create narratives and suggest ambience.

POWER DRAWING

Power Drawing, the education programme of The Campaign for Drawing, has identified four broad categories that reflect the different functions of drawing:

Perception

Drawing that assists the ordering of sensations, feelings, ideas and thoughts. The drawing is done primarily for the need, pleasure, interest or benefit of the person doing the drawing. It might enable them to explore and to develop observation and interpretative skills to investigate and understand the world.

Communication

Drawing that assists the process of making ideas, thoughts and feelings available to others. Here, the intention is to communicate sensations, feelings or ideas to someone else. It is likely that certain codes or conventions will be used so that the viewer will be helped to understand what is being communicated. It might be for an unknown audience. It might be to support group interaction, discussion or other learning activity.

Invention

Drawing that assists the creative manipulation and development of thought. Ideas are at an embryonic stage, unformed or only partly formed at the beginning of the process of drawing. Ideas take shape when the drawer experiences 'reflexive oscillation' between impulse, ideas and mark, receiving feedback from the marks appearing on the page, which prompt further thought and mark-making. Usually the drawing is one of a series, where ideas are explored, repeated, refined, practised, worked over, discarded, combined, where alternatives are sought and other possibilities explored. Key activities here are translation, formation, transformation and invention.

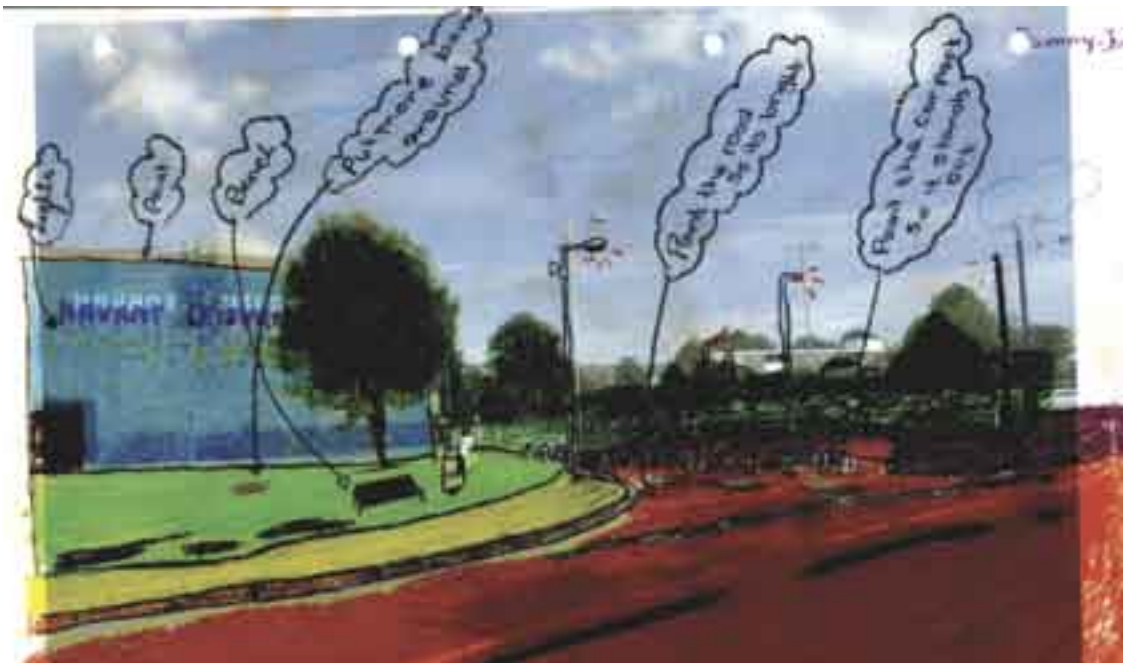
Action

Drawing that helps to put ideas into action. These drawings form a bridge between the realm of the imagination and implementation. The intention is not just to focus on the content of ideas and proposals, but also to put them to the test and see how to put them into effect.

codes and conventions

Different kinds of drawing have evolved in the practice of fine art, graphic design, architecture, landscape architecture and planning. It is important that students see examples of these, not only finished products, but drawing as part of the process of investigation, experimentation and conceptualisation. Of course, there are many other possibilities for working in two dimensions through painting and mixed media collage. Different kinds of drawings use different codes and conventions, many of which are helpful in environmental design:

analytical drawing
animation
annotated sketch
bird's eye view
cartoon
chart
collaborative drawing
design
diagram
diorama
elevation
exploded views
extended photo
field sketch
figurative drawing
flip book
illustration
imaginative reconstruction
landscape drawing
layered drawing
map
measured drawing
narrative drawing
observational drawing
orthographic projection
outline
overlay
panorama
pattern
pictogram
plan
plan perspective
pop-up
portrait
print
projection
rubbing
scale drawing
scraperboard
section
serial vision
shadow drawing
silhouette
sketch
speed drawing
storyboard
technical drawing
temporary drawing
three-dimensional drawing
thumbnail sketch
timed drawing
time-line
two-point perspective
tracing
x-ray drawing



sketches

Drawing by hand is a very important part of environmental design projects. The process of drawing both influences and is influenced by what is happening in the brain. It is a valuable aid to the thinking process, to understand, to communicate and to invent.

Sketches are useful as preliminary drawings to prompt thinking, to outline an idea or to get a general sense of something before subsequent detailed work.

Field sketches done on site need to be quick, economical and capture the essence of something. They are particularly useful in developing skills of observation and analysis.

A sequence of sketches through recording a trace of **serial vision** can keep a record of what can be viewed from successive stopping points, showing how a space changes as you move through it.

Annotated sketches are really helpful when the need is to jot down a lot of information quickly. They can be used both in fieldwork as an aide-memoire, and in classwork, to help in discussion or negotiation with other members of the group.

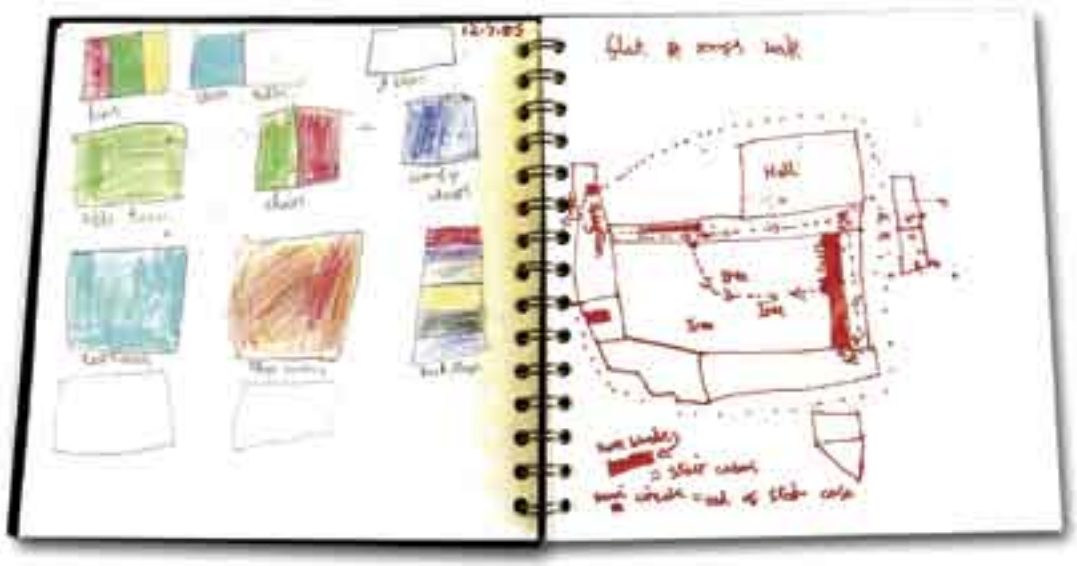
Thumbnail sketches are really small drawings that pinpoint key ideas and help pupils hold on to a fleeting thought.

Concept sketches are useful when pupils are trying to generate ideas. They are not the end of a thought process. They start off the thinking and help pupils develop and refine their ideas.

Solution sketches are used to show how schemes might look. They use codes and conventions that other people can understand.

Sketches are also useful for collaborative effort, where pupils work together on ideas, and perhaps draw on top of each other's work to modify it and develop their thinking. It is important to be able not only to draw, but also to be able to read other people's drawings. Working together is a way of developing knowledge of the codes and conventions. Sketches can be preparatory to more developed drawings. Pupils can also create **sketch maps, sketch plans, sketch designs and 3D sketches.**

The use of **sketchbooks** and **research notebooks** needs to underpin any work in the built environment. They can be used to record information, ideas and observations, make conceptual sketches, experiment and imagine, providing the means and opportunity to get to grips with subject matter, visualise and develop ideas. The process of drafting and trying out ideas is accepted in the production of written work. It is also essential in work involving art and design techniques. Although many sketches will be quick and hastily executed, incomplete and imperfect, this does not mean that they will lack care and consideration. Sometimes it is more appropriate to work quickly, with bursts of energy and intensity of engagement, rather than more slowly and carefully.



diagrams

Diagrams, like any kind of drawing, adopt certain conventions for structuring thought and communicating ideas. They might identify structures, relationships or categories, show cause and effect, represent processes or deal with time. Pupils use all kinds of diagrams for different purposes in environmental design, such as exploring a theme, organising elements within a topic and showing relationships between them, establishing hierarchies or creating a synthesis of parts within a whole.

Bubble diagrams show different parts of a topic and associations between them.

'Tree' diagrams can be used to show relationships within a hierarchy (e.g. family tree).

Venn diagrams can show overlapping characteristics, highlighting similarities and differences.

A **matrix** might evolve from list making activities. This can help to differentiate characteristics.

A **SWOT analysis** can be set out in a number of ways, to show strengths, weaknesses, opportunities and threats, useful when testing out proposals

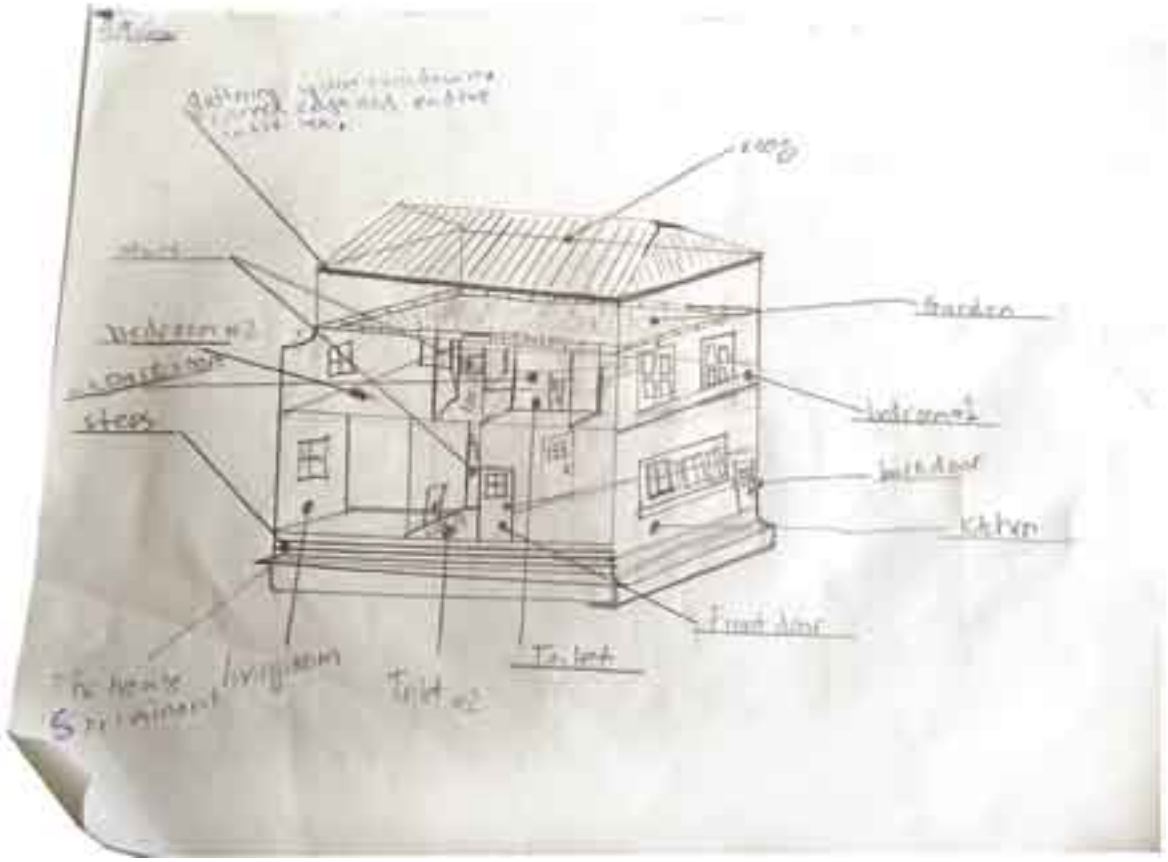
Elevations are drawings showing the façade of a building, identifying the various architectural, design and technical features of construction.

A **cross-section** can represent a vertical plane cutting through a building to show its internal structure.

A **longitudinal section** can represent a vertical plane cutting through a landscape to show its makeup.

A **flow chart** shows a process over time.

Critical path analysis is used by designers to organise and order a sequence of tasks and activities. Pupils might find this helpful in organising their project work.



drawing for design

During the design process, pupils make use of different kinds of drawings and diagrams to aid their thinking. These include drawings from observation, memory and imagination.

Thumbnail sketches and **conceptual sketches** will probably be part of the first exciting phase of generating lots of ideas, many of them impractical and unworkable. These enable the drawer to jot down ideas quickly and without worrying what the drawings look like. It does not matter if they have lots of mistakes or do not communicate to anyone else. They are to help the person doing them to keep a trace of fleeting ideas.

However, some ideas will seem more promising than others. These might be worked up more through **analytical drawings, diagrams, sketch plans, sketch maps** and **two-point perspectives.** Some might be done in collaboration with others. Fantasy and imagination play a part here, to help pupils extend their thinking. Some drawings will have a poetic quality, suggesting messages and meanings, while others will be more concerned with technical considerations.

To develop ideas further requires **analytical drawings, maps and plans** and might also require technical drawings such as **scale drawings, elevations and sections.** Techniques such **as tracing, copying** and **projecting** might be involved. **Computer aided design** (CAD) programmes can help pupils see spaces from different viewpoints, or try out different colour schemes.

Presentation drawing means that the drawings need to communicate ideas to others. They might also be used to help persuade the viewer to prefer one scheme to another. **Bird's eye views, exploded views, illustrations, artist's impressions** or **storyboards** are all conventions readily understood. The first two can be used to explain the relationship of component parts within a whole and the others might introduce narrative elements, linking people and place**.**

A version of the storyboard is **serial vision**, a sequence of drawings to show how a space changes as you move through it. These drawings might be done by hand or with the aid of a computer. Architects, planners and landscape architects are making increasing use of computers and animation techniques to help people visualise their designs and give them some idea of what it is to inhabit the spaces they create.

drawing on photographs

Drawing on a blank piece of paper can be a daunting prospect, with the need to create something from scratch. However, working with photographs can help pupils overcome the challenge of the blank page. It is best if they have taken the photographs and have some knowledge of the place from direct observation. Photographs are not just for recording or communicating information. Linked with drawing, they can be used as a design tool to develop and test ideas.

Digital photography and the use of the computer mean that printing out images is not as expensive as it once was. However, ink cartridges are still quite costly, so it will be cheaper to work on black and white **photocopies** or on **overlays,** using tracing paper or acetates on top of a photograph. Sketches can be done on semi-transparent overlays (tracing paper or greaseproof paper is useful here) placed on top of maps, plans or photographs to consider modifications or changes. Sketches can then be used as part of a montage of photographs, drawings and words. If working on paper, felt tip pens – or if working on acetate, fine pens used for overhead projector transparencies – can be used to change features, to block out elements or to add elements. Drawing in acetate means that drawings can be projected on an overhead projector, so the scale can be manipulated. This is particularly helpful in dealing with subjects such as infill buildings and it is easier for a group of pupils to work together on a larger-scale **projection**.

Outline drawings traced from a photograph, can provide the starting point for each pupil to think up ideas for improvement and the results compared. Or one pupil can try out different possibilities. The advantage of tracing, rather than using the actual photograph, is that the drawer can be very selective about what information is included in the initial drawing.

Making active use of photographs in this way means that pupils are able to reflect on their experience and see things that perhaps they missed in the excitement of the streetwork. They are able to stand back from the immediate situation and analyse it more clearly. It might also make it easier for them to see possibilities for change and improvement.

It is important that imaginative powers are developed. One useful exercise is for pupils to be given a small section of an image from a magazine or tourist publication stuck on a clean piece of paper, and to be invited to use this as a prompt to create a fantasy townscape or landscape, by making an **extended drawing.**

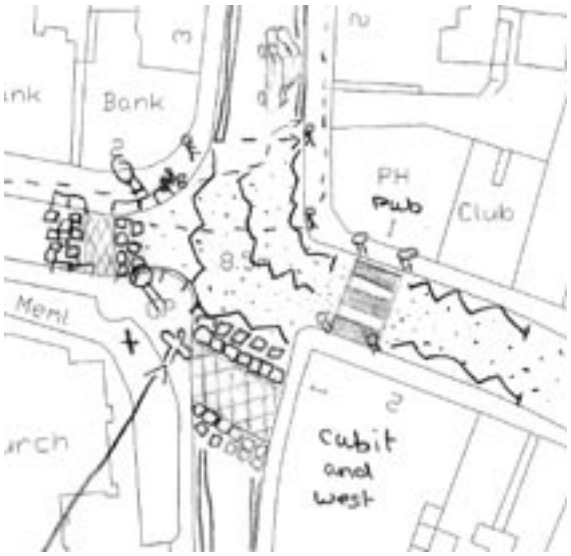
maps

In using maps, two distinct skills are brought into play: reading maps and making maps. Maps can be used in environmental design projects to represent physical features, the position of buildings, orientation to show light and shade at different times of day, land use, traffic flow and pedestrian movement. Pupils may also construct maps to show residential, commercial and industrial zones, population density, routes to school, traffic danger spots, open space, educational and recreational facilities. Maps are used to inform and explain. For instance, maps showing the layout of the school grounds and their use at different times of day would prompt questions about their value as an educational, recreational and social space, and reveal the need for change and improvement. Maps can also be used to provide the basic information on which to base ideas for change.

Maps are usually associated with geography, but different kinds of maps make use of a variety of graphic conventions to convey information. The map of the London Underground and maps of the UK railway network are not related to geography, but use conventions from circuits and other flow diagrams. Artists are increasingly appropriating mapping techniques to map personal territories and record journeys.

Desk research

Before going out to investigate the local area, pupils might make a study of ordnance survey maps, tourist maps, road maps, historical maps or pictorial maps to develop a feel for the study area. A comparison of aerial photographs and maps of the same place is particularly helpful for getting to grips with the conventions of map making. A study



of historical maps from different periods can show how an area has changed over the years. Many of the routes and names will be constant, and through comparative study it is possible to plot successive developments. Different kinds of maps of the same place emphasise very different aspects.

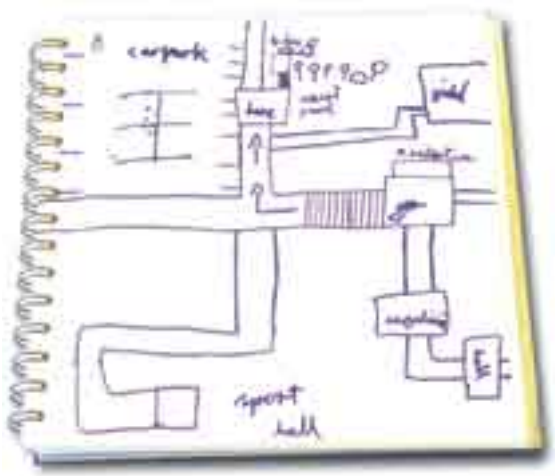
Fieldwork

Sketch maps may be done on the spot to record information quickly and for pupils to use as an aide-memoire afterwards. It is best to use copies of a size and scale that can be handled easily. There is value in working on an outline map prepared beforehand and also creating a sketch map from scratch.

Classwork

Sketch maps can be used in class to facilitate discussion and collaborative working. **Memory maps**, or **mental maps**, can help pupils identify the significant information they can recall from the streetwork. **Mind maps** or **webs** can help pupils sort out ideas, associations and relationships. Tracings and overlays can be used for purposes of analysis. **Presentational maps** can be developed, making use of existing maps and bringing into play techniques of highlighting, annotations and overlays. Maps can be reduced or increased in size through photocopying or scanning and projecting. Large-scale maps are very useful for supporting group work. Completed maps can be recorded using a digital camera or scanned, so that they can be incorporated in PowerPoint presentations.

plans



The difference in maps and plans is evident in the scale. Just like maps, plans can show area, the position of various elements and their relationship with one another. Pupils may be familiar with plans of buildings, but might also make plans for garden or landscape design, for their classroom or a revamp of their bedroom or kitchen at home.

Just as with maps, there are different codes and conventions that professional designers adopt in creating plans. It is useful for pupils to be able to see examples of these.

Plan perspective

Confusingly, plan perspective is more like a map! It is a useful device to show a space and all the buildings around it, drawn rather like a border. If the card on which these are drawn is scored, it can be bent upright along the four edges to create an instant model.

Sketch plans

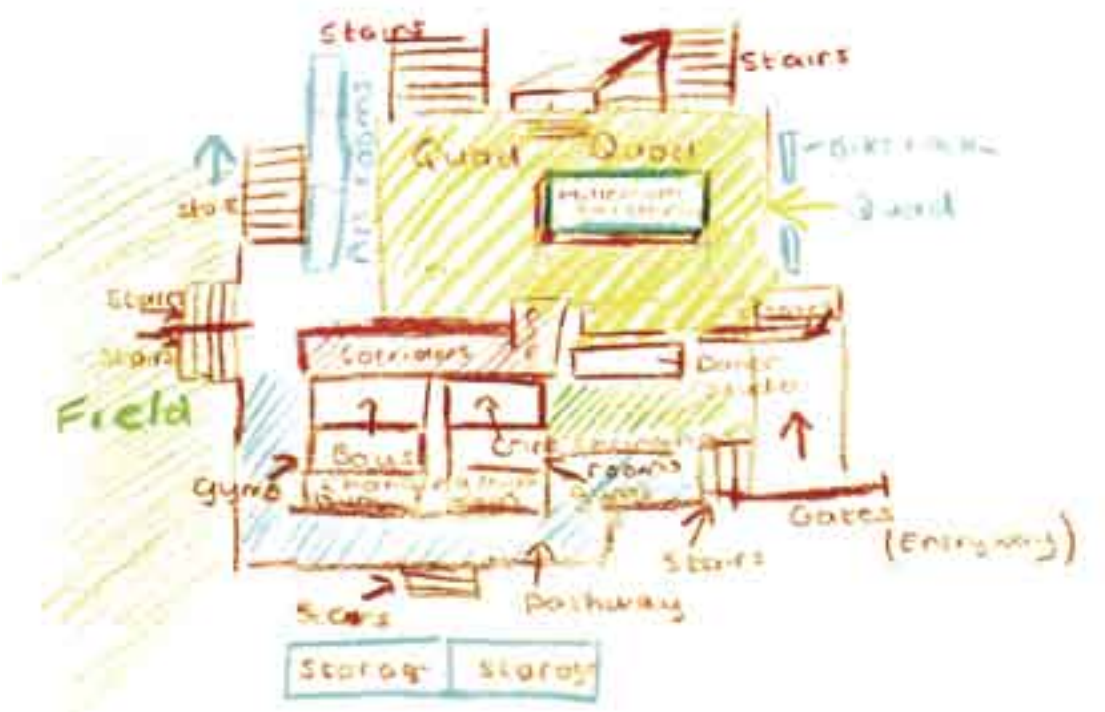
Sketch plans are helpful in conceptualising and working out ideas. Tracings and overlays are helpful here, so that the base plan can be kept intact, but lots of variations can be tested out before final decisions are made.

Technical plans

As well as showing physical features of the position of walls, doors and windows, plans can also show the services that make the building function and need to take account of lighting, heating, ventilation, water and waste. It is not likely that pupils will need to be able to draw such plans, but they should be aware of the different types of plans that are necessary to bring a building project to a conclusion.

Plans for presentation

Clear and well executed plans are helpful for presentation purposes to spell out to the viewer what is intended. These need to include relevant information as clearly as possible, so they help the viewer interpret the proposals.



3 dimensional

It is not possible to make a study of space satisfactorily without engaging in 3D work. Maps and plans are helpful, but these deal with ***area*** rather than ***space*** or ***volume***.

A fuller understanding of space can be achieved by walking through it – time and movement are also important in developing an understanding of how space works. Here, the human body can be used as a unit of measurement or to create **body sculptures**, like animated 3D models, where groups of pupils create forms to echo the types of enclosure or suggest the feelings generated by a space.

Working in 3D helps pupils to appreciate volume and enclosure, positive and negative, solid and void. It allows them to explore a space from different viewpoints and to appreciate relationships between one space and another. This is particularly important in building design. 3D models allow them to understand how spaces are linked vertically as well as horizontally.

Sketch models are useful to explore possibilities at the initial design stage. It does not matter if they are rough and ready, simple and lacking in detail. Materials such as card and acetate can be used, or discarded materials can be recycled to provide a wider range of possibilities. So often experimentation with materials will suggest new forms and relationships – the architect Frank Gehry uses screwed up paper to suggest shapes and volumes – so it is helpful to build up a store of materials that can be easily accessed.

Conceptual models help to develop ideas, and are especially useful in collaborative work, when elements can be changed easily and different versions prepared for comparison. The point of the model is to answer the questions – ***What would happen if?*** – and to be able to test out ideas.

Sketch models may last only a few minutes, as a prompt for invention, or as a focus for discussion within a group. **Presentational models** are useful in communicating and explaining ideas to others. They need to be more robust and to be crafted more carefully. They do not have to be detailed, but they need to express key ideas clearly and powerfully.

Primary schools often use cardboard **boxes** and empty packaging as the basis for making models. With over thirty pupils in the class, these models can soon grow to fill all available space! It might be better work on these in the summer term and use the playground to create a model of the village or town. Chalk can be used to mark out roads, railway lines, watercourses, open spaces, woodland – and any other features the pupils choose to include. Another possibility is to use **shoeboxes** as the basic unit and create landscape designs for gardens.

In all of these, some representation of the human figure is helpful in suggesting scale.

map based models

Models based on maps can be developed in a variety of ways. The important thing here is that maps create a scale that makes it easy to interpret the models.

Contour models can be made very simply by tracing contour lines from OS maps, then cutting out the shapes in thick card or balsa wood and building up layers on a base to indicate the different levels and changing contours of the land. They are useful for looking at the development of a large geographical area or a landscape design.

Urban design models can use a large-scale map as a basis for 3D work. Photographs are used as reference to create drawings of the elevations of buildings. If a border is left at the bottom of each drawing, this can be used as a flap to attach the vertical drawing to the base map. Making the drawings on card will ensure that the 'building' is more likely to stand up. These models are excellent to show relationships between buildings and spaces, the scale of development, the nature and character of the urban setting and how built up the area is. They can be used to test out the impact of an infill development or the effect of creating open space. New facades can also be designed and tested out in relation to existing buildings. Seeing the model at eye level will enhance the sense of being a viewer in that space. The site could be subdivided and pupils invited to work in small groups to produce part of the larger model.

sketch models

Just as drawn sketches can be quick and temporary, done to help the pupils think about possibilities, sketch models embody outline ideas. They indicate a stage in thinking. They may be made of flimsy materials and not very stable. As long as they do the job of prompting ideas and responses, illuminating problems or possibilities, then that is good enough. The whole point is to help the pupil visualise the ideas that are being considered. The model might not be very well made or perfectly proportioned, but the image it stimulates in the mind's eye can be very detailed. Initially, it is to help the pupils consider how structures and spaces can be created, modified and adapted.

A key technical difficulty is how to make things stand up! Masking tape and hot glue guns come into their own in making sketch models. Encourage pupils to think about bending and folding as well as cutting and joining. They might also use soft, malleable materials as well as hard, rigid ones. Small experiments can be carried out to see what is possible with various kinds of media. The results might prompt ideas for environmental design. Scrap stores are a wonderful resource where it is possible to obtain all kinds of materials for models.

presentation models

Pupils work with drawings, maps, photographs and sketch models to develop their ideas. Examples of their work placed on display show how their thinking has developed. However, although pupils may have a clear idea of what shape their proposals will take, this might not be evident to the viewer. Pupils may need to formalise their ideas and to create a new model, not so much for their benefit, but to communicate their ideas to others. Models do not have to be detailed and descriptive to communicate effectively. They can be simple and abstract, concentrating on the essence of the ideas.

Pupils need to decide on the information and ideas that are to be communicated and the best way to do this. How to interpret the ideas in a way that others will understand? What materials are available? What are the technical and practical challenges? How long will it take to make? Will there be costs involved? Where can the model be stored while it is being built, and afterwards? How will it be presented? What is important here is not so much the technical skill of the model maker, but the inventiveness of the ideas and the clarity with which they are communicated.

To help with **interpretation,** it may be helpful to use dramatic lighting, which will bring the model alive. Buildings and spaces surrounding the building should be indicated very simply to suggest context. A few notes explaining the design brief, nature and purpose of the building and some idea of the materials to be used in its construction would also be helpful for the viewer to be able to interpret the model.

Another approach is to be lyrical or playful, so that fantasy elements are included. The idea is not so much to provide all the answers to a design problem, but to use the model as a provocation, to stimulate thinking and discussion. This can be achieved in a number of ways, including using techniques from stage design to create a model like a **stage set,** where space is skilfully manipulated. Another version is the **diorama,** where photographs, drawings and other two-dimensional elements can be combined to suggest structures, spaces and people.

Photographing the model will provide a permanent record. It can be photographed from different viewpoints and different lighting conditions to simulate different times of day. Including small figures or models of cars will create a suggestion of scale. The digital images can be used for further work using the computer to add annotations to images or to modify them using computer software, for PowerPoints or web pages.

photographic, digital, video media

Pupils operate more and more within a visual environment, when they are bombarded with information and narratives on television, DVDs, mobile phones, in magazines and advertising. They are used to dealing with the technology that creates these images. However, they may be primarily receivers of images rather than creators. Environmental design projects bring into play opportunities to select, appropriate and manipulate images as a way of thinking.

Photographs

There is a value in pupils taking photographs, working with their own and other people's images, and selecting, editing and presenting them to construct and convey meaning. The intellectual effort is not in pressing the button on the camera. It is in researching and planning the shots that are needed, having sufficient technical competence to record the images, then to edit and manipulate them in order to express and communicate ideas effectively. Photo essays are useful to construct scenarios and narratives about people and place.

Digital

The development of digital technology has now made photography cheap and accessible as a medium for recording, interpretation and communication. It is useful for scanning a lot of information quickly or focusing on details. It permits students to collect evidence, compare and contrast it and view the environment from different viewpoints. Images can be created by pupils and collected from other sources. The possibilities of various computer packages now make it easy for students to work not only with photomontage, but also to work on image manipulation and computer aided design. Images developed from a fusion of manual drawing techniques mixed with computer-based work are particularly powerful to enable pupils to model their designs using digital montage techniques.

Video

The value of filming, whether it is quick time movies, video or Super 8, is that it offers the opportunity to animate the experience of the environment with people, movement and sound and to create narratives.

image archive

Creating images is important. It is also necessary to consider how best to store and retrieve them. Digital media has made it possible for schools to make collections of valuable reference material that can be retained for pupils to use as a learning resource. The development of an archive of built environment images can be an ongoing project for all pupils. This might include:

- Images of the local area
- Annotated photographs
- Collections of photographs on themes
- Scanned images such as postcards
- Magazine and newspaper cuttings
- Documentary photography
- Photomontage and manipulation of digital images
- Video and film

It might be possible to augment this (with permission) with copies of material from the local library or local authority archive. Librarians and archivists will be delighted to advise.

If pupils' PowerPoint presentations are recorded, these will build up into a useful resource for other pupils. Projects can be revisited and studied from the point of view of content of information and ideas, as well as quality of presentation and communication.

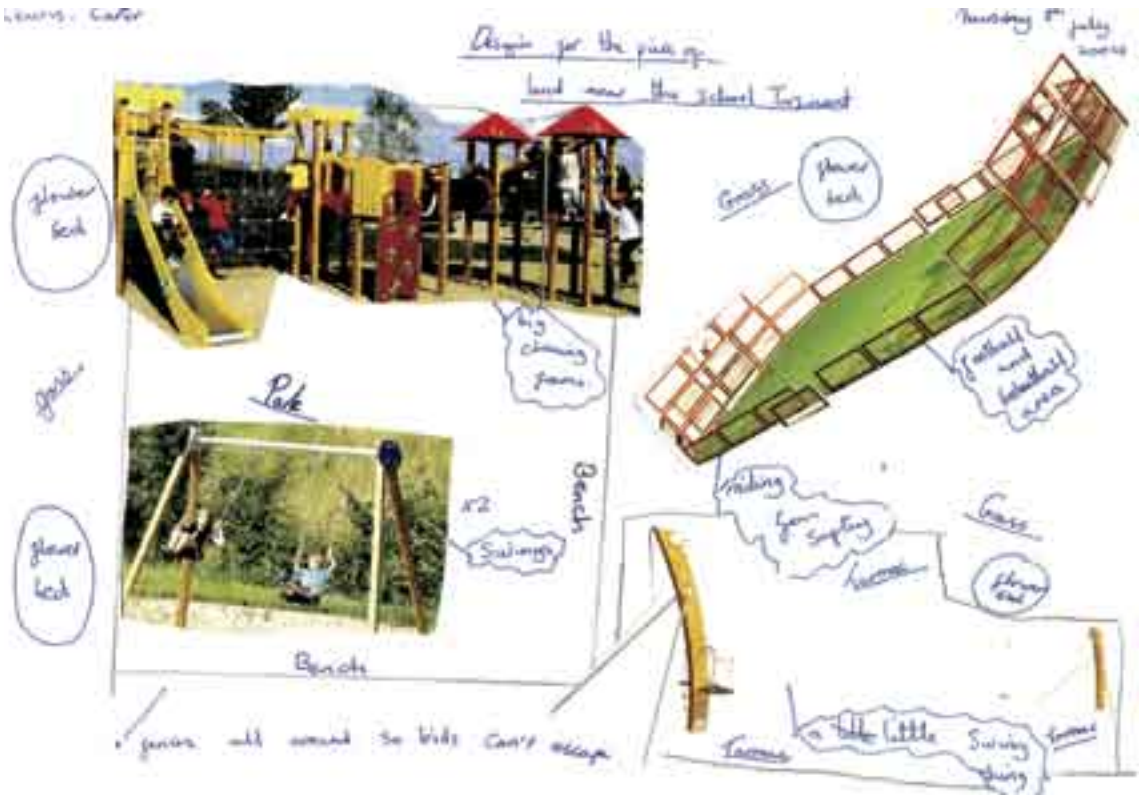
The digital archive can be augmented with a collection of paper-based or photographic material from other sources, such as agencies

and organisations connected with design and environment. Local estate agents or architectural practices may have material they no longer need, such as trade catalogues or design magazines that they would be happy for pupils to use. Tourist information offices are also a good source of information, and can provide maps, leaflets and much local information. Local papers generally carry articles about property issues and in some areas there are free papers and magazines devoted to residential development.

A bibliography and a library of reference books can be added to with each successive project. So too can an archive of visual material. This needs to be carefully organised and clearly labelled, so that it is easy to access and pupils are able to make use of the material. Each image can have its own unique reference number when it is included in the archive and a system devised so that pupils are able to identify their contributions easily.

annotated photographs

An image can be interpreted in many different ways. Viewers will construct meanings in relation to their own experience and frames of reference. The addition of written notes or other annotations can provide some analysis and interpretation. Annotations can be visual – lines, arrows, circles to indicate boundaries, routes, linkages and other key features. Or they can be words – in captions, on labels, in speech bubbles or on overlays. Pupils can be very inventive in the ways that they use annotations. For example, speech bubbles allow a verbal commentary. Images of people may be used with speech bubbles to point up the different perceptions and opinions that people have about the same area. Annotations can also make use of graphic conventions of marks, symbols or colour to analyse different elements of townscape quality.



photomontage

Sometimes it is useful to have flights of fancy or fantasy, 'blue-sky' thinking to generate ideas that are not evident at first. The use of photomontage, where connections or juxtapositions are made between previously disparate elements or where multiple views are shown, can free up the imagination.

Photomontage is a favourite way of manipulating images to create new configurations and new meanings. Juxtaposing elements that are normally unrelated can prompt new relationships and suggest novel possibilities. In pre-computer days, physically handling the various elements and moving them around before deciding on their final resting place allowed time for experimentation and reconfiguring possibilities. Computer software permits the same kind of thinking with virtual media. Pupils can make use of their own images and also appropriate images from magazines and the web.

The environment is as much about memories, dreams and visions as it is about bricks and mortar. Photomontage provides pupils with poetic licence to work metaphorically, rather than practically, to explore issues. How do people use public space? What do 'public' and 'private' mean? What is the place of nature in towns? What are possibilities for transport in the 21st century? What do places 'say' to us? All of these lend themselves to photomontage. The other advantage, of course, is that it can be funny or surreal, creating scope for risk-taking and challenge.

photomaps

Photomaps make use of combinations of maps, photographs and text to describe, analyse and comment on townscape quality. The base map may be taken from a large-scale map of the area or a map devised by the pupils. The photographs show views of the built environment at various locations. The relative positioning of the images suggests sequences and relationships.

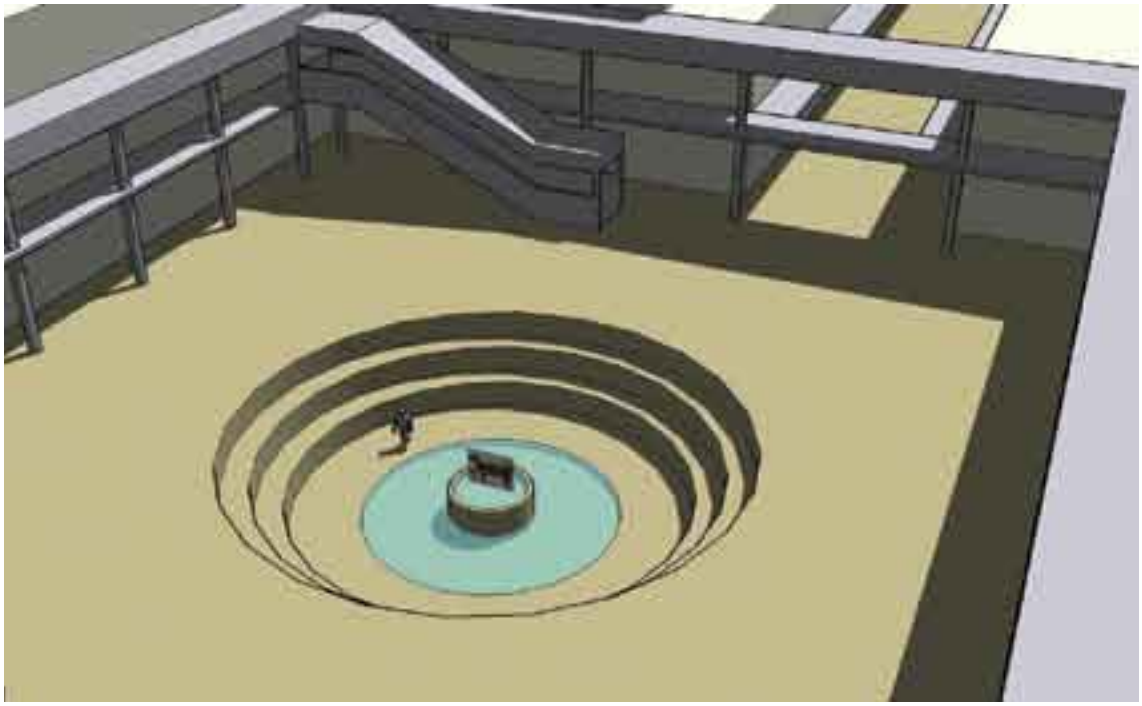
Photomaps are useful in building up a picture of the study in progress. They can also be used to summarise a lot of information quickly to show to people not involved in the project.

Just as we might create a 'timeline' to document events over time, so too can we map or document a journey by creating a **'spaceline'** made up of photographs and annotations. While not exactly a photomap, it shows a sequence of views along a particular route. It might include distant views and close-ups of details. It can bring into play techniques of annotated photographs and photomontage.

Pupils might try to show the variety of sensory experience encountered on a particular route or they may wish to focus on particular features such as space, natural form, use of materials or pollution. In a residential area, personalisation may be an appropriate subject – how do people impact on their own personal environment? How does their home look the same as everyone else's and how does it differ? Or the study may focus on health and safety issues related to routes to school. Or it might be an exploration of a 'green corridor' or nature conservation in relation to the pedestrian routes through a neighbourhood.

The format is very versatile. It can accommodate different viewpoints and include comments by pupils and the people they meet on their walk. Through the use of speech bubbles, it can incorporate their comments, so that photographs of residents or workers are able to 'speak'.

digital image manipulation



Photoshop and PaintShop Pro

There are many computer software programmes for manipulating images. Some of the best known are Photoshop and PaintShop Pro. These can be used with scanned images – photographs or drawings – and tools used to add, mix and match, eliminate or modify elements and relationships. These programmes provide a wonderful medium for pupils to think about changes in the townscape and test out possibilities. Different versions of the same idea can be saved and compared. Just as in photomontage, new configurations and new meanings can be created.

Scanning in drawings or photographs and using a computer programme to transform them can prompt many different responses. Drawings can be worked on using computer aided techniques. Print outs can be worked on using manual drawing techniques. The advantage of the computer is that it is possible to test out different configurations and colour schemes very quickly, and it is easy to retain different versions of the same thing for comparison. A mixture of both manual and computer-aided drawing is probably the best approach.

CAD / SketchUp

CAD software is used extensively by architects to develop their designs and create detailed drawings. However, for school use, it is probably too complex for conceptual design work. Some of the pupils involved in Shaping Places used SketchUp, a 3D sketching software to help them during the conceptual phases of design. This is a simpler tool for creating, viewing, and modifying 3D ideas quickly and easily. The limitations of the programme means that individual drawing styles are lost, but the translation of their ideas into a computer image gave pupils quick feedback on their proposals and allowed opportunities for further changes to be made.

words and images

Whether on television or in newspapers, through video games or soap operas, our society is dominated by messages and meanings conveyed not only through words or images, but also by a combination of words and images. Environmental design projects encourage young people to be articulate about the ideas that underpin their work and the issues they are exploring. Pupils have increasing access to digital media, cameras and computers, and welcome opportunities to put their skills to use. Both visual and verbal presentation and communication skills are becoming more important in the workplace and in social life. Environmental design projects give pupils something to talk about and a means for their voices to be heard on environmental issues.

Environmental design projects involve different learning styles and require visual and spatial models of learning as well as verbal and numerical. Pupils need to work with a range of media, to be able to use different modes of thought and expression. They need to develop confidence and competence using a variety of learning strategies and study techniques, including:

- Drawings, diagrams, maps and plans
- Listening and talking, reading and writing
- Three-dimensional media
- Photographic and digital media

Words help students understand, analyse and express ideas. They allow them to comment, report, explain, justify, argue and debate, all necessary for critical study. Skills in listening and talking are developed through group work, talking with peers and with adults. So too are social skills of polite disagreement, negotiation and persuasion. These are learnt through being exposed to appropriate models and through practice. Informal discussions of all kinds are necessary – about the issues involved and methods of working. Pupils may offer each other encouragement, suggestions or advice. They will ask questions and make comments. They also need to learn when to keep silent and listen with interest, and respect what others are saying. The ability to construct and present an argument is useful in more formal presentations, when students will also develop skills in critique and learn appropriate ways of responding to questions and criticism. The aim is to help young people be articulate about what they know.

vocabulary

Pupils might find it helpful to make lots of lists to have a pool of ideas to work from. These might be **ideas-storms** to help structure the fieldwork or to inform the design activity. They might be generated through paired, small group or class discussion. Someone should volunteer to write down the ideas. This might be on a **post-it display**, a **flip chart**, **a wall** covered with paper on which words can be written, crossed out and added to. Keywords for environmental design include:

Access
Adaptation
Aesthetic
Alignment
Ambience
Angle
Anticipation
Arc
Architecture
Articulation
Atmosphere
Atrium
Balance
Boundary
Circulation
Colour
Connection
Construction
Context
Contrast
Construction
Corner
Criteria
Decoration
Design
Detail
Development
Direction
Distance
Diversity
Division
Edge
Elevation
Enclosure
Energy
Entrance
Exit
Extension
Façade
Fenestration
Floorscape
Flow
Focal point
Focus
Form
Frame
Frontage
Function
Grid
Grouping
Hard landscape
Identity
Image
Infill
Interface
Interpretation
Invitation
Judgement
Juxtaposition
Landform
Landmark
Landscape
Lettering
Level
Light
Link
Location
Mass
Materials
Meaning
Meeting point
Metaphor
Mobility
Mood
Movement
Neighbourhood
Node
Orientation
Palette
Panorama
Path
Pattern
Pedestrian
Permeability
Place
Plan
Positive
Privacy
Process
Projection
Proportion
Public
Public realm
Quality
Refurbishment
Regeneration
Rhythm
Roofline
Route
Safety
Scale
Screen
Seasonal change
Section
Sign
Signage
Silhouette
Site
Size
Screen
Shape
Skyline
Sign
Soft landscape
Solid
Space
Spatial
Specification
Streetscape
Structure
Support
Surface
Surface quality
Surroundings
Surveillance
Suspension
Sustainability
Symbol
Texture
Threshold
Topophilia
Townscape
Transformation
Transition
Translucence
Transparency
Use
Vehicular traffic
View
Vista
Void
Vegetation
Ventilation
Volume

surveys

Pupils need to be involved in preparations for the streetwork by planning their investigation. This might be in the form of a survey about townscape quality. They will need to decide on what evidence they will look for and how they will record it. Simple survey sheets can be constructed.

Contrasts

Younger pupils might find it easier to polarise their perceptions, seeing the townscape in terms of contrasts.

BEAUTIFUL	UGLY
BORING	INTERESTING
CLEAN	DIRTY
CLOSED	OPEN
CONTRASTING	UNIFORM
DECORATED	PLAIN
DYNAMIC	STATIC
FRONT	BACK
HARD	SOFT
LOOK UP	LOOK DOWN
NATURAL	ARTIFICIAL
STRAIGHT	CURVED
OLD	NEW
ORDERED	CHAOTIC
POSITIVE	NEGATIVE
QUIET	NOISY
REPELLANT	INVITING
SOLID	VOID
WELL MAINTAINED	POORLY MAINTAINED
VIVID	DRAB

The good, the bad and the ugly. A very simple means of differentiation is for pupils to make annotated sketches of places that are 'good', 'bad' or 'ugly'. What reasons do they give for these labels?

Criteria

Pupils will often need to identify the criteria on which they base their judgements about townscape quality. For instance, when appraising a building, pupils might consider its context, where it stands in relation to the buildings and spaces around it; the routes to and into the building; the interface between the building's internal design and its external appearance; and the form in which it is constructed:

- General appearance and impact of the building on the street
- Size and scale
- Relationship of building to surroundings
- Choice of materials for construction, protection and decoration
- How well building copes with effects of weather and pollution
- Value of external space

Pupils then consider what works well and what does not work before they decide on the need or opportunity for change and improvement.

questionnaires and interviews

In the first instance, young people's judgements about environmental quality may be based on personal likes and dislikes, their own preferences and desires. However, the environment has to serve the interests of disparate people – residents, workers, pedestrians, motorists, the elderly and the disabled, as well as children. Pupils need to understand the different needs of the people who make up their communities and recognise the needs of a variety of user groups.

Questionnaire

Pupils might wish to prepare a questionnaire to collect information and opinions as part of a survey. This will involve: collecting and recording information; analysing and interpreting it; presenting the findings.

If the questionnaire is to be completed by respondents, it needs to be clear, to the point and not take long to fill in. Pupils need to decide what they want to find out and how best to ask the questions that will produce the information they require. It should state:

- Who is carrying out the survey - name and address of school.
- The purpose of the survey and what will be done with the information provided.
- Thanks for completing the questionnaire.

Sensitivity needs to be exercised when asking for personal information. For example, people may not wish to reveal their age or where they live. If this information is important, they could be invited to tick boxes that indicate age groups and neighbourhoods. It will be easier to collate the information if there are questions that require:

- Responses in the form of yes / no / don't know (e.g. do you recycle)?
- Responses in the form of numbers (e.g. how many times do you shop here each week)?
- Responses in the form of tick boxes (e.g. please indicate your mode of travel here – bus / car/ bicycle/ on foot/ other (please specify).

In addition, there should be at least one open-ended question where respondents can make their personal viewpoints clear (e.g. what do you think is needed to improve the appearance of the High Street)? Pupils need to be polite and friendly when inviting people to respond, to explain why they are carrying out the survey and make it easy for respondents by offering a clipboard and pen for them to complete the questionnaire (black biro is best, as it photocopies easily).

Interviews

Pupils might wish to ask the questions and fill in the questionnaires themselves. Or they may wish to conduct a structured interview, when they will be more interested in views and opinions than facts and figures. Questions will act as prompts for pupils to ask questions of adults in their family or local residents invited to the school. Responses can be analysed and different viewpoints compared.

A class group may decide to invite the chair of a local residents' association or members of a senior citizens' group to school to talk about their experience. The atmosphere should be relaxed and welcoming, pupils should meet and greet visitors and escort them to the meeting place. If possible, tea and biscuits should be provided. Visitors might be asked to make a short presentation or statement about their group, and discussion will focus on themes pupils are exploring in their project.

Although the conversation will be informal, pupils should prepare in advance the kinds of questions they wish to ask. Small group discussion is helpful here, when pupils can take it in turns to lead with questions and to record the discussion. At the end of the session, pupils should thank the visitors for their help and escort them from the school, with the promise that they will inform them of the outcomes of their investigations.

analysis and interpretation

Analysis

Analyses and interpretations can take many forms – words, drawings, diagrams, maps, plans and images. The knowledge gained from these will influence proposals for change. All the techniques in this section can be used to describe and analyse the existing environment. Different kinds of analysis will focus on different aspects, e.g.

- Maps showing land use, or movement of pedestrians
- Plan showing play facilities in a park
- Chart showing results of survey of frequency of vehicle movement
- Annotated photographs showing danger spots
- Report on views of different users of local shopping centre.

Interpretation

All of these can feed into how young people understand the subject for study and what meaning it has for them. There are also different kinds of interpretation that they might wish to use.

Making an **artwork** allows young people to reflect on their experience of a place and re-work it, both to understand it for themselves and to communicate their response to others. It can embody feelings. For instance, **watercolour** drawings can convey a mood or atmosphere. A **photomontage** might suggest relationships that are not at first evident. Tourist **posters** can link people and place and emphasise the positive aspects.

Postcards that show positive or negative aspects of a neighbourhood can showcase things people take for granted or choose to ignore. **Photo essays** and the production of **videos** provide wonderful opportunities for pupils to create a sequence of images, perhaps with a music or verbal commentary, that conveys a personal response to place. Young people's experience and perceptions will be very different from those of adults. They will value different things. The interpretation can be lyrical or poetic. It can incorporate dream sequences or flights of fancy.

An **exhibition** or **installation** of images, objects and text is another way that a group might interpret their surroundings and convey a sense of place. This might include examples of building materials, photographs of buildings and how people have personalised their environment, extracts from interviews with residents, collections of natural form. The most modest form is to do **'a museum in a box'** with each pupil collecting momentoes of the place, then all of these being exhibited. Or a large-scale installation could be developed as part of a design week, when pupils bring all the material they have collected and put it together in a major exhibition to prompt discussion and debate.

Role play can be used in improvised drama to highlight the experiences and views of different people. A scenario can be invented around a current proposal for development. For instance, if this is for commercial development, this will bring into play the different voices of business people, employers, workers, residents, property developers, architects, planners, landscape architects and local government officers. Each pupil can take on a different role and attempt to see the development through the eyes of that person, identifying issues that might arise.

appraisal

Appraisal and critique are important in environmental design projects. They are about valuing quality. The word 'critique' is from the Greek word, kritos, a judge. The act of criticism is about weighing up evidence and making judgements as to merits or faults. It is not about finding fault. It is also about explaining how you arrive at a judgement and being prepared to justify your opinion or point of view.

Critical skills cover a range of activities: size up; sum up; take stock; comment; examine; investigate; evaluate; consider; explain; elucidate; clarify; interpret; and appreciate.

Work in progress

Pupils might wish to assess the quality of existing buildings, open spaces or the streetscape. To do this, they need to decide on their focus for study and what their criteria for appraisal are – what qualities the particular thing under review will be judged against – what it is they are trying to value.

They need to be able to compare and contrast different features and qualities, so it is helpful to have as much knowledge as they can as a basis for their judgements. This can be from their own experience of environments they know, but also needs to be extended by reference to other places through reference to books, film and the media.

It is helpful if pupils collaborate on appraisal activities so that different points of view can be considered. This can happen when pupils are discussing townscape qualities or when they need to make a choice or a decision in relation to their own work.

Short critiques can happen all the way through a project, when there is a need to pause to reflect on the work so far, what has been achieved and what needs to happen next. Individuals or groups can make short presentations. It gives a chance for pupils to catch their breath, take stock, look again at what they are doing and be clear about the next step. There are opportunities for questions and comment, for the teacher to make suggestions or give advice.

Final

A final critique might be more formal, when individuals or groups of pupils are expected to present their work to the whole class, or perhaps a group of interested adults made up of parents, teachers and governors. An exhibition or PowerPoint presentations will create a lot of interest and a verbal commentary can bring out key points in their thinking. Presenters may wish to draw viewers' attention to:

- The history of the site, the existing situation
- The need for change
- Opportunities and constraints
- Possibilities for change
- Proposal, with SWOT analysis

Pupils need to be able to respond to questions and comment and should be prepared to explain their thinking and give reasons for their choices and decisions.

disussion

Some parts of a project can be done by individuals, while other parts are more effective through working with others. Designers work increasingly as members of teams, and need to be able to work collaboratively. They need to be articulate and to be able to express their ideas clearly and convincingly. Pupils may work in pairs or small groups. Sometimes this will be with friends, so communication is easy. Sometimes it will be with people they do not know so well or do not like so much, so they have to develop sufficient social skills to manage this.

In discussions between themselves in small groups, pupils may take on different roles: the person who generates ideas, or who merely comments on those of others; the person who is widely imaginative, but maybe impractical; or the person who is sensible, but does not come up with inventive thinking; or the person who makes connections; or the person who seeks consensus or compromise; or the person who points out the flaws or the problems. All of these responses are useful in shaping ideas.

In discussion with the teacher, pupils may need to explain why they think the way they do or why they have made certain choices or decisions. They should also find ways to ask questions to elicit information or explanations that will help them in their work. They need to know which are appropriate ways of responding to suggestions or advice.

It may be appropriate to conduct class discussions. In feedback sessions, it will be helpful for all members of the class to learn about what others have been doing and know the results of their investigations. This is especially important when each group is engaged in a different part of a larger project.

Class discussions might also focus on wider issues related to environmental design, where there may be differing opinions: conservation; regeneration; pedestrianisation; traffic calming; or commercial development. Pupils need to know how to form a point of view, based on evidence and be prepared to explain and defend it. They also need to know how to disagree politely.

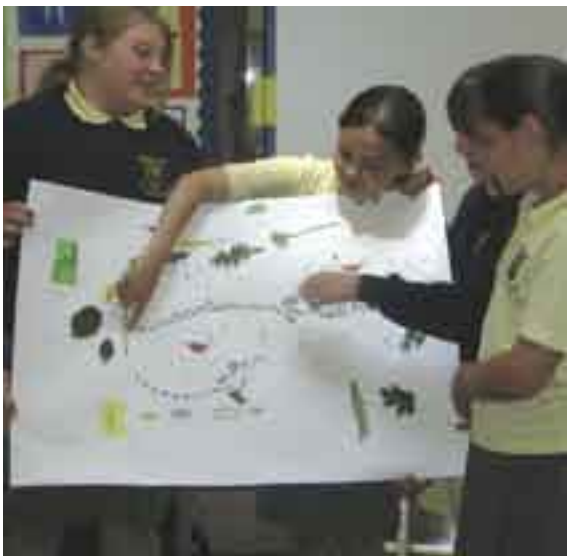
But discussion skills are not all about talking. Pupils also need to listen carefully to what other people say, and to treat their views with interest and respect. They need to pick up points to which they can respond, to extend or elaborate on what someone else has said.

presentations

Presentations are useful to bring the project to a conclusion, formalising what has been learnt and making it public. The preparation for this obliges pupils to reflect on their experience and to be clear what they have learnt, as they have to present and explain it to others.

The visual display might also be a background to a verbal presentation, when pupils will be expected to explain their ideas to others. Here, skills of communication will come into play, when pupils will need to know how to engage an audience, how to hold their interest and how to make what they have to say interesting to others. Pupils might wish to make reference to the visual display or make use of overhead projectors or PowerPoint presentations to illustrate their ideas.

This session has greater educational value if there are questions and comments from the audience, as pupils then have to think on their feet and be ready to respond. They need to learn strategies to elaborate on what has been said or maybe to put forward alternative or contrary views.



displays and exhibitions

The power of display is well recognised in museums, galleries, libraries and shops. In the classroom, good display contributes importantly to the learning environment. Pupils learn not only from the experience of looking at a display. They probably learn more from creating a display or exhibition of their work. This is bringing into play curatorial and design skills, where they have to be clear what it is they wish to communicate and how best to do this.

When pupils are able to display work in progress – usually much easier to do during a design week, when space and time are used differently – it gives them immediate feedback to influence what they think and do next. This is why artists and designers create 'ideas' walls as stimulus for their work.

It is also very helpful for pupils to create a display at the end of a project, to be able to reflect on their learning and to consider how best to share it with others. It is important to display pupils' work. It can provide feedback, celebrate effort and achievement and show examples of ways of working. It can reinforce previous learning,

Making work available for public scrutiny can raise standards by encouraging pupils to appreciate both their own work and that of others. The display might include many of the study techniques pupils have already used – annotated sketches, drawings, designs, maps, plans, photographs, dioramas and models. Although pupils may include material that has been part of the process of developing their project, it must now be clearly presented and labelled and further explanation provided so that other people can understand. The layout and appearance of the display must ensure that key ideas come across clearly. The visual impact is very important and words should be used sparingly to clarify meaning.

Sometimes, it might be useful to include photographs of the project in operation to show the various stages of the work and illuminate the learning process – streetwork, classwork, design activity, individual study and groupwork – so that the viewer will know how the ideas were developed. This is also a way of celebrating pupils' efforts and achievement. Knowing that their work will be put on display encourages pupils to take a pride in their work. Seeing how others respond to it reinforces this.

Because of time constraints, teachers prefer to mount displays themselves. However, there is great educational value in pupils taking on this responsibility and developing new skills in visual communication. Good planning, careful thought and efficient management are necessary to achieve a good display. So too are aesthetic and design sensibility, powers of invention and practical skills.

There are many different possibilities for putting work on display – in the classroom, elsewhere in the school, in a local library or empty shop. If the display is in the classroom, it will be available only to pupils who use that classroom. Placing it in a public area in the school ensures that lots more people will see it. If the subject is of wider local interest, libraries and shop windows are another option. Putting it out in the public domain bring a new challenge. It might be necessary to consider how well certain items can travel and whether or not it might be advisable to use large- scale photographs instead. There will be no one to look after the display and take care of any problems that might arise, so it has to be self-explanatory and robust. It might need to be seen both from a distance and close up. It may be necessary to prepare additional explanatory material, such as posters or a leaflet.

newspaper, magazine, web pages

Digital media provide the technology to share what is learnt. This might be to report and comment on work in progress, as feedback for participants, to inform them and make sure that everyone is aware of the larger picture. The emphasis here would likely be on processes of investigation, experimentation and design, with examples of work of different kinds. Newspaper, magazine and web pages might include material such as:

- Examples of work in progress
- Images of pupils engaged in different learning activities
- An interpretative commentary to explain what is happening
- Comment to identify issues and prompt discussion

Or it might be to prepare material that summarises the project and to share the results of the learning with others. As well as explaining about the process, this would need to show the content of the ideas and perhaps identify key issues that were explored. It is important to know who the audience will be – other pupils, teachers, parents or the wider community. This will influence how the project is presented. Clear storylines and careful editing play an important part here. Too much detail might be confusing. What you leave out is as important as what you include.

A small group might take responsibility for this, or perhaps a group from another class with a particular interest in media might take it on as their project. They will need to have skills in both verbal and visual communication, have good organisational abilities and the ability to spot opportunities to photograph interesting activities and interview participants. They will need to decide on how they will generate the material and who will edit it. Newspaper, magazine and web pages will require a grid for layout, and if produced with the aid of a computer, the necessary software mastered. The team has to agree areas of responsibility, the roles and relationships involved and be able to keep to deadlines for production.

The newspaper format is really useful during a design week, when pages could be distributed each day to report on work in progress. At the end of the week, these could be reconfigured to create a substantial newspaper, which would act as a permanent record of the whole school project.

The magazine format is useful in preparing a leaflet or brochure to summarise highlights of the project. This could also include in-depth interviews with some of the participants. Certain pages might be suitable to be blown up as posters for display in public settings.

A web page could be created for the school's website, based on the material developed for the newspaper or magazine. This would be for an unknown audience and should show the school in action, with perhaps short commentaries by pupils and teachers.

powerpoint

Stimulus

PowerPoint presentations are useful to introduce the ideas and ways of working. Initially, a presentation needs to inspire and motivate pupils to want to do the project. Then it needs to help them anticipate the ideas and methods of working that will be involved. PowerPoint can introduce reference material to the whole class to extend what is learnt from direct experience of the environment. Explanation can be given verbally, but sometimes it is useful to have a few words on screen to reinforce key points. It is better when presentations are short and to the point and leave pupils wanting more. Instead of trying to put too much information into one long presentation, it might be better to introduce different ideas at various points as the project develops.

Reflection

Viewing a PowerPoint presentation has some educational value for pupils. Making their own presentation creates other opportunities for learning, when a variety of skills are brought into play:

- Conceptualising a framework for the presentation
- Research and investigation
- Generating evidence
- Organising and ordering material from a variety of sources
- Selecting, sequencing and editing images
- Writing and editing text
- Visual communication
- Verbal communication
- Teamwork

Presentation

A presentation can be developed by small groups and shown to the whole class. It can bring into play images from secondary sources as well as the pupils' own work. It is a versatile tool. It can include maps, plans and diagrams as well as photographic images and text. It can report, explain, pose questions or explore issues. It can include a commentary or soundtrack. As pupils become more confident in handling the technology, they will become more adventurous. PowerPoints can be retained in an archive and used as reference material by other students.

video and camcorder

Concept

Pupils need to decide on the purpose of their film, the ideas they want to communicate and the audience for whom it is intended. What genre will it fit into? Will it be a lyrical film to celebrate a neighbourhood's good points or will it be an investigative documentary to explore issues and problems? Will it use a music soundtrack or will it include interviews with people? Will it have a presenter or will it speak for itself? Everyone involved needs to have a clear understanding of the main ideas. The key consideration is that whether it is a documentary or fiction, making a film is essentially storytelling, using images or, more likely, a combination of images, sound and words. What is crucial about storytelling is the way you tell the story.

Planning

Shooting a video involves careful planning and it is best to plan a shooting script.

- What is to be recorded?
- What key elements of environment, design and people should be included?
- What are the locations for shooting?
- What camera angles to use?

Careful attention should be given to the preparation of equipment and tape stock. It will be necessary to practise using the equipment to develop a familiarity with it and to develop technical skills before embarking on the filming. Locations, travel and timing will need to be taken into account in planning the shoot.

Filming

Filming is best organised in small groups. Pupils might negotiate the role they play, or perhaps could take it in turns to try their hand at being director, continuity, cameraperson, sound recordist, interviewer and editor. The director needs to have the larger picture in mind and be able to organise the filming to make best use of the time and resources available. A key task is to direct the activity, identifying good locations, making any necessary arrangements beforehand and taking responsibility for the smooth running of the operation. The person in charge of continuity keeps a check on the shots that are required and what has been filmed, keeps a record of these and labels them ready for editing. The camera person needs to deal with the technicalities of using the equipment, but also choose interesting shots, respond to changing light conditions, focusing and framing, remembering to take long shots, medium shots and close-ups of key images, as final decisions will not be taken until editing.

Editing

A lot of creative work goes into the editing of the material. One pupil might take overall responsibility, but as it is an educational activity, all of the film crew will probably be involved. Key questions are:

- What do we want to say? How can we say it?
- What is the story being told and what are the key points in the narrative?
- What is the purpose of the film? To illustrate or explain? To give a balanced view of something or to put forward a particular point of view and persuade?
- What opening shot will set the scene and contextualise the subject of the film, but also grab viewers' attention and make them want to continue watching?
- How can the main ideas be introduced quickly?
- How will music be used to create atmosphere or enhance the messages communicated by the visual imagery?
- How can clips from interviews create a narrative commentary?
- What extraneous material needs to be left out?
- How will the titling and credits be designed?

Telling a good story means feeding key information at the right time, and sometimes holding things back until later, perhaps to trick or surprise your audience and keep them engaged and their interest high. Images and sound are complementary and need to work in harmony – it is not necessary to spell things out as the audience will understand the meaning from how images are juxtaposed and sequences, from the soundtrack and from the pace and rhythm of the film.

Showing

A small group of other students might be invited to see rough cuts before the final edit and act as 'critical friends' to help the film makers judge their efforts objectively and gauge how well they are communicating their ideas. The completed film can be premiered at a showing for other pupils, parents and other interested adults such as local councillors.

working together






working together

Collaboration is an increasing feature of artistic and design practice in built environment projects. It is increasingly becoming more common for artists, designers and built environment professionals to work with schools. This provides opportunities for teachers to extend their own professional boundaries. Environmental design projects enable them to acquire new subject knowledge and develop new ways of supporting learning activities.

The **Shaping Places** programme was designed:

- to provide an enriched experience for young people engaged in environmental design projects by providing a working contact with artists and built environment professionals;
- to provide support for teachers from art and design and geography departments to work together with artists and built environment professionals on environmental design projects.
- to make explicit the ways in which projects developed as well as the methods of study so that other teachers can benefit from their experience.

The aim was not only to benefit the schools that participated in the programme, but also to disseminate the results of their efforts and provide encouragement and support for other schools to develop their own projects.

Benefits for participating schools included an enhanced curriculum, cross-curriculum connections, greater social relevance, raised levels of achievement and community links, creative approaches to learning and teaching and a raised public profile.

The cross-phase connections strengthened links between the secondary schools and their feeder primaries and showed how learning and teaching strategies could be adapted to suit the needs of different age groups. It also gave children in the transition phase between Key Stages 2 and 3 the opportunity to engage in project work and make connections between different areas of study.

Working with colleagues from other disciplines and professions was an opportunity to experience a variety of approaches to environmental design education and provided a new perspective for many as to how they viewed their professional role. It emphasised the importance of this area of the curriculum, and in some cases, highlighted the fact that many schools are not geared up to accommodate the ways of working that it requires. The use of the environment as an educational resource, working outside the classroom, learning based on experiential, investigatory and experimental modes, stronger community links, the use of a wide range of resources and the need for flexibility and adaptability made demands on schools that challenge traditional timetables and established organisational patterns.

It is not possible for everyone to have the experience of inter-professional collaboration in education. However, it is possible to learn from **Shaping Places** and similar programmes and to re-invest what has been learnt in future practice. For teachers to develop environmental design projects does not necessarily require the involvement of artists, architects, urban planners or landscape architects. It does require teachers to review their subject knowledge in relation to the environment, and to recognise the value of their professional skills, able to support and influence learning. It requires consideration of different ways of organising learning activities.

The pace of environmental change creates many opportunities for developing environmental design projects. These may be focused on changes in the school grounds, the local neighbourhood, residential areas, commercial developments, recreational facilities or public space. The need is to identify ways in which these can provide a focus for study and stimulate young people to engage with the challenge of environmental change confidently and positively, but also responsibly.

pupils

The use of outdoor study environments as an educational resource is a key element in environmental design studies. Project work often provides a welcome change for the usual school routine. Pupils value the opportunity to learn in different settings and to use a variety of learning strategies. For many pupils, the experience of moving away from the desk and dispensing with the worksheet is a liberating one. For others, it can be challenging to take responsibility for their own learning and to work without being constantly directed.

Some pupils might seem quite shy and reticent at first, but as projects progress, they become much more engaged and vocal. They enjoy learning from first-hand experience. Learning to see the world in a new way and learning to think about it is empowering. Children and young people take pleasure in learning when it is purposeful, when they feel ownership of the ideas and when it means something to them. Central to motivating pupils is:

- A clear sense of purpose and direction in each activity and the programme as a whole
- Relevant studies closely related to their lives
- Practical and investigative learning activities
- Tangible outcomes
- The opportunity for their voices to be heard and included
- The possibility of their work effecting change in the real world
- The knowledge that their ideas are being treated seriously

Knowledge

The environment is changing all the time, so that in environmental design projects, the knowledge base is not a fixed entity, but a dynamic set of circumstances, which will probably be modified and which are open to interpretation. Projects serve as an introduction to architecture, planning and landscape design, and pupils learn about the influences that impact on how we shape our environment. They become aware of the complex relationships involved and are able to formulate questions about how we choose to organise the way we live. Although the work is focused on local development, pupils also need to be aware of general trends and examples of design elsewhere. The knowledge they gain is not subject specific, but helps them make connections between different areas of study in the school curriculum.

Skills

In environmental design projects, research skills are nurtured, These involve investigation and interpretation, using both primary and secondary sources. Pupils learn how to learn, how to think about a problem from different viewpoints, how to marshal information and ideas and how to use a range of strategies to help solve problems. Above all, the work seeks to develop thinking skills. These emphasise not only analytical modes, but require pupils to make connections, see relationships and synthesise disparate strands.

Intellectual, practical and technical skills are developed in all phases of the work. Design skills are nurtured at every stage. These include: design awareness, when pupils become more alert to the ways in which design influences our environment and our behaviour; critical skills, which are brought into play when pupils appraise the environment or critique their own or each other's ideas; and design activity, when experience of problem identification and problem solving bring into play skills of hypothesising, visualisation and inventiveness.

Environmental design projects involve working with a range of visual material – drawings, maps, plans, diagrams, as well as photographs and digital images. Very importantly, it involves work in three dimensions to develop spatial awareness. Skills of listening and speaking come into play at all stages, during the research and investigations, in the analysis and interpretation of the research material, in the groupwork and design activity and in the presentations and critique. The work is re-iterative, it builds on experience and knowledge; it requires insights and creative leaps to make connections and establish relationships. Education in environmental design involves both cognitive and affective modes of study. Objectivity and subjectivity are both valued. Pupils become more

aware of their surroundings and are less likely to take them for granted. Skills of empathy are evident in pupils' responses to place and their understanding of people's needs.

Environmental design encourages independent learning. A framework for study is negotiated, and pupils need to contribute ideas and ways of working to progress the project. Each pupil can bring experience, ideas and insights to the work. Social skills are developed through pupils working cooperatively. Group work is not always easy, but learning skills of cooperation and taking shared responsibility are important for the way pupils operate in later life. There is a need to vary the roles within groups from time to time so that each pupil can develop experience of leading the activity and that pupils who tend to dominate or withdraw contribute usefully.

Attitudes

At first, blocks to learning may be evident in negative attitudes, lack of confidence and self-esteem and fear of failure. However, project work allows opportunities for experiment and the experience of 'creative failure' when pupils learn to re-work ideas and resolve problems in different ways. Learning to deal with frustration and disappointment is important. There is no one correct answer in environmental design, but there are some solutions to problems that are better than others. Pupils are encouraged to take a critical stance to the environment and to their own work. Pupils take pride and pleasure in sharing their work with others and find it satisfying when they feel they are contributing to something worthwhile. Young people are concerned about their environment. They wish to feel valued as members of their community. They welcome opportunities to contribute ideas and for their voices to be heard.

Progression and development

The challenge for teachers is to consider how to extend pupils' experience of the built environment and deepen their understanding. To do this, they need to think not only of ***content*** in terms of the ideas that underpin the work, but the ***methods*** that underpin the ***process*** of learning. The case studies show convincingly that pupils of different ages can tackle the same projects. The approaches to study and the methods of study are similar. However, the complexity of ideas they deal with and the depth of study will change. Skills include the ability to:

connect	critique	problems
perceive	envision	test out ideas
empathise	change	collaborate
differentiate	hypothesise	present
analyse	generate	narrate
categorise	ideas	argue
synthesise	imagine	discuss
interpret	possibilities	inform
critique	experiment	explain
identify needs	take risks	demonstrate
or problems	address needs	persuade
discuss	solve	

Discussion, communication and critique happen throughout.

Pupils' comments:

I liked sightseeing.

I liked going to town and making models.

I liked sharing ideas and working as a team.

I did not like the slide shows and all the writing we had to do.

I did not like the clips. They showed too much of what's wrong with the town and not enough good things.

I did not like watching the slides because I like designing my own and creating them and making them wackey.

Did not like writing it all down and discussing it all, I just wanted to make the model.

I did not like walking to the town and back.

teachers

The Secondary National Strategy for school improvement makes it clear that teaching and learning is at the heart of school improvement. Its encourages schools to develop strategies to support school improvement through professional development, having regard for four principles:

- **Expectations** – establishing high expectations for all pupils and setting challenging targets for them to achieve.
- **Progression** – strengthening the transition to Key Stage 2 to Key Stage 3 and ensuring progression in teaching and learning across Key Stage 3.
- **Engagement** – promoting approaches to teaching and learning that engage and motivate pupils and demand their active participation.
- **Transformation** – strengthening teaching and learning through a programme of professional development.

The Secondary National Strategy characterises teachers' professional knowledge as:

- Subject knowledge
- Teaching and learning models
- Teaching repertoire (skills and techniques)
- Conditions for learning

Subject knowledge

The environment is part of our everyday experience. Architecture, design and planning are not areas that only experts know about. However, most teachers are not trained in these disciplines. They feel at a disadvantage when they are expected to teach about them. Indeed, in the **Shaping Places** programme, much of the subject knowledge was introduced by built environment and design professionals. Knowledge about the design of the built environment increases every day. In the 21st century, issues about ecology and technology will come more to the fore. Environmental design projects are as much about ***how*** you learn as ***what*** you learn. The challenge for teachers is to engage with questions of how we choose to live and how we shape our environment.

Teaching and learning models

The models for learning in environmental design relate to experiential, investigative and project-based learning, described by The National Strategy as an inductive model, where pupils are required to gather, sort, and classify information, suggest hypotheses and then test them. The synthesis is achieved through design activity. Teachers bring into play their knowledge of how young people learn and strategies for supporting their learning, using techniques derived from art, design and geography. Added to that is critical study, with an emphasis on making and explaining judgements. In the **Shaping Places** programme, many teachers were wary at first of the open-ended nature of enquiry and experiment. However, as projects developed, they saw how valuable these were in developing pupils' learning and thinking skills.

Inspirational leadership is at the basis of all good learning and teaching, and the teacher who is a keen enthusiast will inspire pupils to explore and experiment. Environmental design projects, where the end result is not known in advance, but the means to achieving learning outcomes are clear, provide opportunities for the teacher to present the model of the good learner. This is perhaps the most important aspect of the teacher's role, modelling how to learn and how to make use of the results of that learning.

Teaching repertoire

In environmental design projects, teachers employ a wide range of skills and techniques to support learning through:

- Informing
- Explaining
- Asking questions
- Demonstrating
- Directing
- Instructing
- Advising
- Questioning
- Discussing
- Giving feedback

Conditions for learning

Much thought needs to be given to creating optimum conditions for learning. These include the physical working environment, the social relationships that are encouraged, the expectations and the support mechanisms. In environmental design projects, pupils are learning wherever they are – in the street, the classroom, the studio or workshop, in front of a computer screen or in a group or class discussion. They need to be able to work as independent learners, but also as a member of a team. The projects can be ambitious in scope, but a framework needs to be established to help pupils tackle the various parts with confidence and enable them to see how each part relates to the whole. Support mechanisms include explanation of appropriate learning strategies, encouragement and feedback from the teacher, as well as access to a wide range of resources.

Management and organisation

Teachers identify key concepts – the big ideas – which pupils need to explore, related very closely to everyday life and the world outside school. They set the framework for the projects and negotiate methods of study for streetwork, classwork and studio development. They develop learning opportunities for pupils to construct knowledge and make meaning through information gathering, problem solving and skills of investigation, enquiry and experiment. They set expectations about the nature and quality of the work. They provide stimulus and challenge, as well as strategies for learning and feedback on work in progress.

Cross-departmental

Environmental design projects can be integrated with art and design, geography, design and technology, citizenship and education for sustainable development programmes, either those developed by schools themselves or as part of QCA schemes of work.

- They can be independent and stand-alone.
- Or they can operate in parallel with other subjects – a multi-disciplinary approach.
- Or they can work in an integrated way – an interdisciplinary approach.

To work effectively, and to ensure a degree of progression and development, it is helpful if different subject teachers are aware of how environment and design topics are tackled in other departments, and when appropriate, agree to collaborate. Planning, preparation of resources and study activities, shared teaching and evaluation will all help to develop a shared understanding of the nature of environmental design projects. Each subject area will have its own emphasis and be able to make a particular contribution.

Cross-phase

Teachers in secondary schools and those from their feeder primary schools find that environmental design projects create many opportunities for cross-phase working. They provide for shared experience, an introduction for younger children to a new learning environment and a measure of continuity. The projects do not have to engage younger and older pupils working together, but can be run in parallel. However, comparing experience and sharing reflection can provide new insights into learning and teaching.

inter-professional collaboration

Creating opportunities for professionals to work in unfamiliar settings means that they find out if their specialist knowledge can transfer to different contexts. They develop new perceptions of other professionals and gain fresh insights into their own work and professional role. The contribution of artists, architects and landscape architects to the Shaping Places programme took a variety of forms:

- They made a significant contribution to conceptualising and planning projects in schools, suggesting possibilities for study and ways of handling topics.
- They provided resources such as maps and plans.
- They introduced topics for study through PowerPoint presentations, identifying new concepts and vocabulary and exploring unfamiliar ideas.
- They supported streetwork sessions, explaining how to use the study methods, analyse and appraise townscape quality and record information.
- They directed design activity, supporting pupils through different stages of appraisal, ideas generation, development of ideas and presentation of proposals. Their work with 3D and digital media was especially significant.
- They shared techniques used in professional design practice and demonstrated ways of handling computer-aided design.
- They engaged in critique of pupils' work, both during the design activities and at the final presentations.
- They helped with the documentation of the projects.

Working with pupils

Artists were concerned with developing a sense of place. Their focus was primarily environmental awareness and they encouraged a subjective, emotional response. They aimed to heighten perception and oblige pupils to look again at a place they perhaps took for granted and see it with a fresh eye. Artists also tried to intensify young people's emotional engagement with a place. In the streetwork sessions, they tried to avoid reliance on worksheets and used more physical kinds of engagement with the environment as a means of exploration. During the studio sessions, they were on hand with practical advice to help pupils develop and communicate their ideas.

The environmental designers emphasised the importance of space as a major element in the townscape. Much of their effort was directed at helping pupils experience, analyse and appreciate the ways spaces impact on us and how we impact on them. They introduced unfamiliar vocabulary to help pupils describe, analyse and evaluate spaces and places. Very importantly, they engaged pupils in constant dialogue in an attempt to help them formulate ideas and opinions and be able to explain and justify how they had arrived at them.

It is challenging for non-teachers working in schools for a short time to establish effective working relationships quickly. Teachers' expectations of what artists or designers can do may be unrealistic. It is not always easy for some pupils to work with unfamiliar adults who lack experience in teaching. Sometimes, non-teachers find it difficult to work with young people and can take an over-directive stance, or they may have unrealistic expectations of pupils' knowledge or abilities, setting standards too high or too low. There is a danger that artists or designers do most of the creative thinking, leaving pupils to develop ideas through the application of skills and techniques, rather than by means of creative thought. Conversely, some young people find it difficult to take the initiative to generate ideas and working methods for themselves and expect adults to tell them what to do and to direct them.

There may be tensions between the adults in relation to their distinct contributions, as sometimes the artist or designer may take over the teacher's role. It is important to develop ways of working that are interactive, mutually supportive and equitable. It is not always easy for adults other than teachers to communicate with young people in schools. There are often established modes of behaviour that outsiders may be unaware of or choose to ignore. Although they might communicate on a one-to-one basis, some non-teachers find it

challenging to communicate with groups of young people. Teachers often act as interpreters, so their views might be particularly influential.

Working with other professionals

There are positive benefits from working with people outside one's own field. In **Shaping Places**, the artists and built environmental professionals developed new insights into education, learning and teaching. Their experience of working in schools brought them face to face with the reality of learning in an institutional setting, with all the attendant bureaucracy that seems to have engulfed schools at the moment. They were surprised at the lack of flexibility and the tight constraints of time. They developed a clearer understanding of the challenges involved in teaching.

The programme acted as a stimulus to create working partnerships between teachers from different subject areas and they appreciated the inspiration and support that the artists and built environment professionals gave to the projects. It helped them develop the confidence to develop their own projects, though at first, some were hesitant to take the lead in shaping the framework for study, plan for the different phases of the work or direct learning activities. But the experience of working with others revealed the need for teachers to recognise their own professional skills in being able to support learning activities.

The programme did not necessarily shift established practices in schools. It was not always possible to influence notions of how best to use resources of time and expertise. The traditional timetable of individual 35-minute lessons and established departmental structures and hierarchies in schools did not always suit project-based work. In some cases, the lack of a dedicated space to work in created significant practical difficulties. The current emphasis on assessment also meant that the educational value of outcomes that were not predetermined and measurable was not always recognised. It was easier for primary teachers to appreciate the importance of the child's all round development and the value of the range of learning opportunities that project work creates.

Professional development

The **Shaping Places** programme invited colleagues from different professions to work together, to experiment, document and evaluate their work and to share it with others. Their investment of time and effort was not just for the benefit of the schools involved. The purpose was to identify ways in which schools and teachers could manage environmental design projects without such extensive support.

This book is a key outcome of the collaboration. It argues the case for environmental design projects to be included in the school curriculum. It exemplifies possible content of projects and ways of handling project-based learning. It shows convincingly the sequence of study that other schools can adopt to develop their own environmental design projects. It provides a wealth of study activities that can be adapted to suit different age groups.

The book can be used by individual teachers who wish to develop projects with their pupils. It can also be used as a focus for discussion for teachers in primary schools to develop a policy for environmental education to ensure that pupils experience different kinds of environments and a variety of study methods in successive years. It can be used by different subject teachers in secondary schools to help them work together to develop multi-disciplinary or interdisciplinary projects. It can encourage artists and built environment professionals to contribute to educational programmes, perhaps saving them time and energy by showing where their expertise can be most usefully employed.

The projects, study methods and commentaries show that there are no quick fixes. This book does not mark the end of a programme, but the beginning of a new phase of development, when other schools are invited to develop their own projects.

Make sure the scope of the project is appropriate
Identify resources beforehand
Be clear on education and operational objectives
Plan timing carefully
Anticipate the need to be flexible and adaptable
Develop strategies for active learning
Develop strategies to support group work
Do not try to introduce too many ideas at the same time
Do not talk too much
Do not do the thinking for the pupils

development

Each project should be seen as part of a long-term, on-going cycle of development. To support this, teachers should:

- Keep a record of the programme and notes on each session.
- Retain examples of pupils' work. (Choose examples to show different approaches or different levels of ability or to retain a set of work from an entire group).
- Retain pupils' comments on the project overall and their work in particular.
- Evaluate the project, making a SWOT analysis, summarising its strengths and weaknesses, opportunities and threats in terms of learning and teaching.

With digital technology, it is easier to retain images of work in progress and the final work, PowerPoints of presentations, comments by pupils and text documents.

Documentation

Work can be recorded through the use of digital images showing work in progress as well as examples of students' finished work. It is useful to document work in progress to be able to analyse and evaluate learning and teaching activities, which will help in interpreting and evaluating the results. The documentation can influence further development and also be of benefit to others. It is important to record:

- Stages of development and how the learning activities develop over time
- Different settings for study
- Various kinds of interactions between pupils and between pupils and teachers
- Methods of working
- The work itself

Important evidence is to be found in pupils' research and investigations, their preliminary work and their designs. When photographing pupils at work, it is difficult to be teacher and photographer at the same time. It requires good organisation and keen sensitivity. Taking photographs can influence the nature of the activity and impact on pupils' participation and behaviour. They may become self-conscious, act up for the camera or lose concentration. Some pupils are shy, and disabled pupils may have particular sensitivities. Some ethnic groups do not wish to be photographed. However, photographing work in progress provides valuable feedback for pupils and teachers. Schools need to be aware that photography is an important tool for reflection. Special permission does not need to be sought, but parents should be notified at the outset of the project or at the beginning of the school year that photography will be used, and if there is good reason, they can ask for their children not to be included.

Recording sessions through video is useful, as it may provide helpful feedback to participants, helping them look more objectively at themselves involved in the processes of learning and teaching. Pupils, teachers and built environment professionals will also welcome the opportunity to create video diaries to record their experience, when they will probably be more spontaneous.

A visual presentation about the process of study may be a good way to introduce an evaluation session at the end of a project, when pupils are invited to reflect on their experience. Teachers in both primary and secondary schools have found that showing pupils a PowerPoint presentation of their work at the end of the school year obliges pupils to reflect, reinforces what has been learnt and makes them aware of the progress they have made.

Similarly, having to prepare written reports on projects obliges teachers and other adults involved to reflect on their experience and give a considered account of what happened. Each person will have a different viewpoints. Through comparison of the different reports and opinions, a picture will emerge of the ideas and activities, the positive and negative aspects, the benefits and problems. Pupils' evaluations provide insights from the learners' perspective. All the reports will provide feedback on ways of working, roles and relationships, learning and teaching and project management, important for future project planning.

Dissemination

Do share the results of your work with others to develop learning communities.

The Information Commissioner's Office is the UK's independent public body set up to promote access to official information and to protect personal information. It regulates and enforces the Data Protection Act, the Freedom of Information Act, the Privacy and Electronic Communications Regulations and the Environmental Information Regulations. It provides a good practice note on taking photographs in schools www.ico.gov.uk This states: The Data Protection Act is unlikely to apply in many cases where photographs are taken in schools and other educational institutions. Fear of breaching the provisions of the Act should not be wrongly used to stop people taking photographs or videos which provide much pleasure. Where the Act does apply, a common sense approach suggests that if the photographer asks permission to take a photograph, this will usually be enough to ensure compliance. Photos taken for official school use may be covered by the Act and pupils and students should be advised why they are being taken.

resources

A resource is a source of supply, support or aid. An educational resource is anything that creates the potential for learning. The **environment** is constantly available, easily accessible and freely available! It is always changing and makes an ideal subject for design studies. The challenge for teachers is how to make the most of this precious resource. Every environment offers different possibilities for learning. The learning methods and teaching strategies in this book can be used in a range of different environments. Many of them are not subject-specific, and can be used across the curriculum.

People too are an important resource. Although they are not trained as educators, art, design and built environment professionals can offer advice on content of studies and methods of study. They have specialist knowledge of the environment, they are used to thinking about change and might be able to offer ideas for study and identify local resources. Other people who might contribute are those from the local community, residents and workers, librarians, archivists and local government officers.

Teachers will find it useful to build up a set of resources for built environment projects, including **contacts, publications**, an **archive of images** and lists of **websites** and **organisations.**

Publications to be used as reference will include the work of artists, illustrators, public art architects, landscape architects, planners and interior designers. Magazines and technical journals can be collected from professional and commercial sources for very little cost. Many architecture practices are pleased to let schools have journals and trade magazines they no longer use. Other sources include product literature, tourist brochures, material from estate agents and free local newspapers and magazines.

It is now easy to build up a **digital archive** developed by pupils and teachers for educational use. This might include photographs taken by pupils and teachers, scanned images and downloads from the Internet.

Teachers might like to bookmark useful **websites** to compile a list of useful sites for their pupils to develop independent research.

Publications by Eileen Adams

Adams E. (2006) (ed) **Drawing Attractions: Drawing in Heritage Environments** Published by The Campaign for Drawing www.drawingpower.org.uk available from the National Society for Education in Art and Design www.nsead.org

Adams E. (2004) **Space and Place** Published by The Campaign for Drawing www.drawingpower.org.uk available from the National Society for Education in Art and Design www.nsead.org

Adams E. (2000) **Space Place** Published by and available from The Lighthouse www.thelighthouse.co.uk

Adams E. (2000) **Breaking Boundaries** Published by and available from Kent Architecture Centre www.architecturecentre.org

Adams E. (1997) **Changing Places: children's participation in environmental planning** Published by The Children's Society www.the-childrens-society.org.uk

Details of resources published by The Commission for Architecture and the Built Environment (CABE) can be found in the teaching resources section of the CABE website www.cabe.org.uk This contains information on publications including 360 magazine, and news and articles. There is also a useful links section, and you can sign up to the network by visiting the 360º page.

360° is a quarterly magazine for schools focusing on the education work of CABE and generally includes articles from Architecture and Built Environment Centres and schools up and down the country plus a pull out resource.

Getting Out There Safari Guides: Geography and Citizenship (2005) Designed to support teachers and provide ideas about how to use the local environment as an educational resource for Key Stages 3 and 4.

Getting Out There Safari Guides: Art and Design (2006) Designed to support teachers and provide ideas about how to use the local environment as an educational resource for Key Stages 3 and 4.

What would you do with this space? Involving young people in the design and care of urban spaces (2004) This publication aims to provide a practical guide for practitioners. Through sixteen projects, it explores ways to involve children and young people in public space and sets out some of the key issues that projects may face.

Being involved in school design: a guide (2004) A guide for school communities, local authorities, funders and design and construction teams to being involved in the school building process. Its 10 case studies provide examples of efficient involvement across a range of school building projects.

21st Century Schools: learning environments of the future (2004) Issues related to the design of learning environments.

Other useful publications

Cullen G. (1971) **The Concise Townscape** Architectural Press

Fanelli S. (1995) **My Map Book** The All Children's Company Ltd

If you would like to provide feedback on how you have made use of this book, please send your comments to:

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