A project by

Irish Architecture Foundation

ARCHITECTS IN SCHOOLS

FACILI-TATOR HAND-BOOK

CONTENTS

WELCOME

Welcome to your Architects in Schools 'Facilitator Handbook'. This resource is designed to guide you throughout the process. It offers a suggested framework for project delivery, from planning to designing and reflecting. This handbook includes a Learning Support Guide, which corresponds with the design process in the 'Student Handbook'.

Architects in Schools

The Irish Architecture Foundation's (IAF) Architects in Schools initiative places architects in schools across the country to guide secondary school students through a hands-on design process. You may be using these resources as part of the initiative or you may be working independently to introduce architecture in your classroom.

Students learn how to research, design and communicate architectural ideas through workshops, excursions, drawing, model-making, photography and more, always reimagining the spaces around them and sometimes even affecting change in their school environments or local communities.

Architects in Schools is open to all schools interested in participating and the selection is made on an annual basis via an open call for applications.

This initiative is supported by online resources and an Irish Architecture Foundation publication for students called the Architects in Schools 'Student Handbook'.

Architects in Schools website

mydesignjournal.ie/students
mydesignjournal.ie/teachers

Irish Architecture Foundation

Established in 2005, the Irish Architecture Foundation is an independent organisation dedicated to the promotion of architecture as culture. We encourage people to engage with their built environment, to inspire new ways of thinking about architecture. Opportunities for young people, including this initiative, are an important part of our programme.

Irish Architecture Foundation website

architecturefoundation.ie

CONNECT

Share your ideas

- The Architects in Schools website is the place to post and view current design projects happening in schools nationwide, whether you are formally participating or not.
- You can encourage your students to get involved. The website is designed to be an active part of this initiative, engaging students in the process of sharing and displaying their research and project development. To post on the website, email the IAF with a short project description and some key images.

Connect
mydesignjournal.ie/category/blog

Email us
education@architecturefoundation.ie

Skills Sharing Day

The Irish Architecture Foundation run an annual 'Skills Sharing Day' for architects and teachers formally taking place in this initiative. This is an opportunity for architect-teacher pairs to meet up informally in advance of the project. It usually takes place in September and lasts about the length of a school day.

The day consists of a number of sessions including an overview of the initiative, information about what to expect, practical tips and case study presentations by teachers, architects and sometimes students about their own experience of Architects in Schools.

During the day there is time for questions and answers, general networking and an opportunity to share experiences.

Architects in Schools Annual Exhibition

The Irish Architecture Foundation run an annual Architects in Schools exhibition to showcase the design projects taking place nationwide in formally participating schools. It is usually held in March or April. Some schools (student groups plus a staff member / teacher) and architects attend the exhibition if it works with their schedule.

Every school formally taking place in the initiative has the opportunity to participate by emailing images and text to the IAF, which will be designed into a poster to be displayed at the exhibition.

Architects in Schools Exhibition
Waterford Festival of Architecture, 2018
vimeo.com/iafarchitecture/nasi2018

Architects in Schools Exhibition
GMIT Galway, 2019
vimeo.com/iafarchitecture/nasi2019

'Architecture is perfect for creative minds that like logic'

Student Participant

AIMS + OBJECTIVES

For Students
For Teachers / Architects (Facilitators)

Architects in Schools aims for students to experience architecture through hands-on design workshops and stimulus activities. Benefits for students, teachers and architects all form part of the initiative's goals. As stated by the Irish Architecture Foundation, the benefits for the different participants involved are listed below:

Benefits to Students (Learning Outcomes)

- Develop informed awareness and appreciation of architecture and design, by collaborating with a professional
- Develop informed career choices in the fields of architecture, design, sustainability and the built environment
- Gain new skills including project management, collaboration, model-making, technical drawing, digital drawing, design, site analysis, environmental awareness, 2D and 3D representation
- Build on existing skills in debating, creative problem solving, critical thinking, reflection, teamwork and presentation by communicating (both visually and verbally) with their peers and adults
- Engage in self-directed, project-based, experiential learning
- Employ initiative, innovation and design thinking
- Learn about architectural heritage and about building for a sustainable future
- Empowerment to be active citizens through a collaborative design process to improve their built environment

Skills

- Project Management
- Collaboration
- Debating
- Technical Drawing
- Digital Drawing
- Model-making
- Presentation
- Critical Thinking
- Creative Problem Solving
- Design
- Visual Communication
- Verbal Communication

Benefits to Teachers

- Engage in a peer-to-peer learning experience with a design professional
- Gain new skills in how to facilitate, communicate and disseminate design concepts and skills to students
- Gain new knowledge about architecture, heritage and the built environment
- Opportunities to re-imagine school or local environment
- Potential for opportunities to realise change in the school environment

Benefits to Architects

- Training and experience in how to work effectively in an educational context
- Gain new skills in communicating the practice of architecture to a wider public
- Develop skills in collaborative design
- Opportunities to network
- Potential opportunities to realise architectural projects in the school or local area
- Continuous Professional Development (CPD) accreditation from the Royal Institute of the Architects of Ireland (RIAI)

PROJECT PLANNING + PREPARATION

Planning checklists and guidelines for facilitators

This section contains practical tips for both teachers and architects to help plan and prepare for this design project. The project is facilitated over a number of workshop-type sessions, delivered by an architect in collaboration with a teacher, with student input. If you are a teacher delivering this project without an architect, and not formally part of the initiative, much of the information below will still be relevant.

Workshop Schedule

- Schedule sessions as far in advance as possible.
- The architect and teacher can arrange an introductory meeting or phone call (soon after the Skills Sharing Day) to facilitate scheduling, to discuss workshop content and to establish objectives.
- Communicate with the Transition Year / class co-ordinator early to allow plenty of notice for planning the session dates.
- A popular time for scheduling this initiative is during Term 2, however from feedback, the preferred time for schools is Term 1.
- Consider how often the workshop sessions will take place. Sessions at weekly intervals can work very well - there is enough time in between sessions for students to continue with some of their work and the momentum is good.
- A teacher may also schedule an additional session before, in between and/or after sessions with the architect to ensure that the students get the most out of this initiative.

'I see buildings and architecture from a completely different perspective now'

Student Participant

Workshop Format

- This initiative supports 12 classroom contact hours and 8 preparation hours for the architect. Additional hours may be facilitated by the teacher, as described above.
- You can plan 4 × 3 hour sessions, 3 × 4 hour sessions, 2 × 6 hour sessions or any combination of the above. 12 × 1 hour sessions may not work as well for the development of ideas and immersion in the process. The chosen format will depend on what works best for the architect, teacher, student group and overall class plan.
- From feedback, the most effective and preferred way to work is in either 3 or 4 hour blocks. This allows for plenty of time for the students to become fully engaged, yet it is short enough for students to maintain focus. Alternatively, 2 × 6 hour sessions can allow for total immersion and can also work very well. This may suit architects who are travelling or taking annual leave to participate in this initiative.

Participants + Group Size

- Students can elect to participate in this project, based on their interest and motivation. This can work very well as the students tend to be motivated and committed.
- Alternatively, this project can be assigned to a class group. This may not be as effective in terms of student engagement, however it can open up the opportunity to students who may not realise their interest in architecture, design and the built environment.
- Consider the total number of participants. A group size of 12 to 15 can work very well, as both architect and teacher can give more feedback and practical assistance to individuals and small groups. A class group of 30 can be more difficult to assist with the hands-on tasks (e.g. model-making), yet it may be quite dynamic in terms of idea generation and class discussions.

– From feedback, it is common practice and most effective for students to work in smaller groups. Some tasks may be assigned individually, but the design process is suited best to collaborative group work. As the teacher knows the student cohort and is familiar with how they work together, they can assist with group formation. If students self-select their groups, encourage them to form a team with a variety of skills and interests.

– It is important that the smaller groups share their ideas with the larger group to facilitate peer to peer learning and feedback. Allow some time at the end of each workshop session for the entire group to come together to discuss their experience. In addition, refer to the website throughout to remind students that they are participating in a national initiative and are part of a much larger network.

The Teacher-Architect Partnership

– This initiative works best when the architect and teacher work in collaboration, before, during and after the sessions.

– Before: The architect and teacher can discuss some possible starting points for the project. The ideas will ultimately come from the students, but it can help to have some of the groundwork done in terms of possible sites and user groups. The 'Explore' stage of the design process can be given to the students in advance of the scheduled sessions with the architect.

– During: It is important that the teacher stays in the classroom with the architect for the sessions. The teacher knows the student group and can assist with discipline and general classroom dynamics, in addition to participating in the process. In between the sessions the architect can plan the next session based on the previous session. The teacher can facilitate additional sessions to support students in the development of their ideas.

– After: The architect and teacher can collaborate to support the students in their preparation of a project description and images for the website (and the annual Architects in Schools exhibition if relevant). The 'Reflect' stage can be facilitated after the scheduled sessions, but please note that reflection and feedback is an important part of the design process throughout and not only upon project completion.

Cross-Curricular Links

– Architects in Schools is complementary to many Senior Cycle subjects, including Art, Maths, Sciences, Design and Communication Graphics, Construction Studies, Home Economics, English, History and Geography.

– Architects in Schools can also link in with other class projects and activities. The students may be already scheduled to visit cultural institutions and participate in action projects with community or environmental groups. This may provide the students with natural starting points in terms of what they are designing, who they are designing for (the user group) and where their design could be located (site).

Cross-Curricular Links
Art, Maths, Sciences, Design and Communication Graphics, Construction Studies, Home Economics, English, History and Geography

Materials + Resources

– Advance planning is essential to organise materials and resources.

– It is the responsibility of the school to provide materials, however the architect and teacher usually collaborate on this aspect. The architect can visit the classroom in advance to determine the existing equipment, resources and materials.

– The guideline materials budget for the formal Architects in Schools programme is €150 and the school commits to providing this. Sourcing materials can be shared with the architect, who then provides receipts for any materials purchased to be reimbursed by IAF.

– Encourage the students to collect and bring in a diverse range of recyclable / reusable materials including boxes, cardboard, paper, packaging and fabrics.

– Computers with SketchUp and/or Minecraft can be a useful resource.

– Classroom Organisation: It is useful to have shelf space set aside in advance of the workshop sessions to store 3D models safely so that they do not get damaged. For 2D work, it is helpful to have A1 or A2 folders to store drawings, perhaps one for each smaller group.

Materials

EXPLORE

Computer / internet, printer, sketchbooks, paper, a range of drawing tools

RESEARCH

Coloured markers, A1 or A2 paper, post-its for brainstorming

DESIGN

Concept Design: Paper, card, a range of drawing materials

Drawing: Tracing paper, cartridge paper, pencils, erasers, charcoal, pastels, scale ruler, set square, OS maps of the site

Model-making: Cutting mat, steel ruler, foam-core board, mounting board, A1 and A2 card, balsa wood, lollipop sticks, barbecue skewers, wire, felt, foil, sand, glue, scalpel, scissors, staplers

PRESENT

Models, photos of models and work in progress, original drawings, design brief, display boards, computer with PowerPoint, projector.

REFLECT

Paper, pencils, post-its, markers

Documenting Your Project

- Document the workshop sessions as you go along, both the process and outputs. Encourage the students to get involved. All you need is a camera and/or a video recorder. The work (drawings, models, collages etc.) produced by the students also forms part of the documentation.
- This documentation can be useful when sharing your work on the website and contributing to the Architects in Schools exhibition, in addition to school or local community presentations.
- Teachers, please ensure that parental consent is in place regarding any public use of images of students. Obtain a consent form from the school or IAF and ensure that it is distributed and signed in advance of the first session.

‘Every week we saw our project develop. It showed that architecture is everywhere and everyone can play a role’

Student Participant

PROJECT CONTENT + THEMES

Project Content

- There is huge scope for flexibility regarding the content of the workshops for your design project. This allows for unique, varied and original responses to the initiative.
- Each architect brings their own experience, interests, skill-set and background to their facilitation work at the school.
- Each school is located on a different site and in a different area. This will inform the design brief, including the selection of suitable sites (where?) and possible user-groups (who?).
- Each teacher has a speciality and area of expertise, depending on what subject(s) they teach. This will inform the process. The materials, resources and equipment available will depend on which room is being used for the project (art room, woodwork studio, technical drawing room, etc.).
- The participating student group will have their own particular interests and responses. Encourage the students to express their voice, collectively and individually, and to articulate their opinions about the built environment. A range of diverse ideas will emerge.
- The focus is on the students' engagement with the design process, rather than a focus on the end-product. The end-product may take any number of forms depending on the process and underlying themes.

Project Themes

Examples of project themes and approaches from participating schools in previous years include:

- Designs for outdoor classrooms and student social spaces on sites within school grounds
- Conversion of vacant or under-utilised buildings on school grounds
- The re-use of a school courtyard
- Design of school seating using recycled materials
- Exploring themes of structure / light / materiality / colour in architecture
- Visits to buildings of architectural interest as a starting point
- Creation of a short animation in SketchUp
- Redesign of the orangutan area in Dublin Zoo, and a workshop at the zoo
- Design of a backdrop for a school play, exploring light and colour
- Design of a sensory tunnel under a road
- Exploring architecture through film
- Creation of an art / architecture installation as a receptacle for collecting plastic bottles

A Space for Learning — Case Studies (2011)

To view a selection of case studies from A Space for Learning, the IAF Architects in Schools project in 2011, please visit the website. Architects collaborated with Transition Year groups across Ireland on an ideas competition specifically about school design. In total, 120 architects collaborated with 90 schools in 23 counties during this hugely successful scheme, with the resulting exhibition touring Ireland in 2011–2012. It will give you a few insights into what is possible!

mydesignjournal.ie/teachers

A Thematic Approach

The following sections offer some guidelines and ideas for a thematic approach to your design project. These themes can work as a specific project focus or alternatively as background awareness integrated throughout the process.

- **Theme A** – Universal Design
- **Theme B** – Sustainable Design
- **Theme C** – Built Heritage

THEME A — UNIVERSAL DESIGN

'Universal Design is the design and composition of an environment so that it can be accessed, understood and used to the greatest extent possible by all people, regardless of their age, ability or disability.'

'Universal Design places human diversity at the heart of the design process.'

CENTRE FOR EXCELLENCE IN UNIVERSAL DESIGN (CEUD), NATIONAL DISABILITY AUTHORITY.

An awareness of Universal Design is important and relevant when designing any environment, building or product. Universal Design is good design. In the context of this project it is about designing, from the outset, inclusive, accessible spaces that are easy to navigate, for the broadest possible range of user. People of diverse abilities should be able to use buildings and spaces comfortably and safely. It is important for students to have an awareness of the diversity of user requirements, even if this is not the main focus of their project.

Design Process — Guidelines for Universal Design

Universal Design is relevant throughout the design process as it is a fundamental condition of good design. Support student awareness of Universal Design as they participate in this design project by integrating it throughout, rather than introducing it as a separate topic.

EXPLORE

Introduce the students to the '7 principles of Universal Design', ensuring relevance to their own experience of the built environment. The 'Space Study' activity could focus on a space that is aligned with these design principles, and can be compared to a space that is not user-friendly. Encourage the students to consider issues of accessibility, navigation and inclusivity from diverse perspectives, through a group discussion.

RESEARCH

While working through the 'Who?' section, ask the students to consider diverse user groups. Who are the possible end-users of their design? Do they have specific requirements (sensory, motor, cognitive)? What personal experiences do the students have with regard to access and spatial navigation in the buildings and spaces they use every day? A project could focus on resolving design issues for a user group with specific requirements – if appropriate, the students could interview different user groups.

DESIGN

Encourage the students to think creatively about solutions for inclusive design. From the outset, consider how to design an environment that will meet the needs of the widest possible range of people. Good design can be used by all with less need for adaptation later. Tips: Consider the external environment (landscaping, topography, surfaces etc.), location of entrances, horizontal and vertical circulation. If there is more than one option for a design choose the most inclusive one (e.g. a wider entrance to a building will accommodate a wheelchair user, but also a parent with a buggy and a person with shopping bags).

The Seven Principles of Universal Design

1. Equitable Use.
2. Flexibility in Use.
3. Simple and Intuitive Use.
4. Perceptible Information.
5. Tolerance for Error.
6. Low Physical Effort.
7. Size and Space for Approach and Use.

PRESENT

Encourage the students to explain their understanding of Universal Design in the context of their own design project. If designing for a specific user group, how did they determine the user requirements? How did they create an inclusive and accessible design?

REFLECT

Facilitate a discussion with the students: do they have an increased awareness of the importance of Universal Design in the built environment? Has this awareness changed how they empathise with different user groups? Has it challenged their understanding of diversity? How can they articulate this?

Resources – Universal Design

Website

Centre for Excellence in Universal Design (CEUD) CEUD is part of the National Disability Authority. This informative website features a Built Environment section, including the best practice guidelines 'Building for Everyone: A Universal Design Approach'. The '7 Principles of Universal Design' are also available, with additional detail.

universaldesign.ie

THEME B – SUSTAINABLE DESIGN

Architecture as a discipline is positioned in a broader cultural framework of human inter-relationship with nature. Sustainability is now an important factor in the design of any built structure. Sustainable architecture is about the design and construction of buildings in order to limit their environmental impact. The main objective is to achieve efficiency by using appropriate materials and technologies and by designing in context (i.e. in harmony with the characteristics of a site).

Design Process – Guidelines for Sustainable Design

The approach outlined below is about supporting students' understanding of sustainability as they participate in this design project by integrating it throughout, rather than introducing it as a separate topic.

EXPLORE

Encourage students to build their awareness about sustainable building materials (including straw bales, bamboo, recycled plastics, wood and rammed earth) and how they are used in design. The 'Be Inspired' activity involves finding out about a green / sustainable building. They may incorporate sustainable materials into their design project later.

RESEARCH

While thinking about site and context in the 'Where?' section, assist students with an outline site analysis. Although there is limited time for this project, it is important to ensure that the students understand the basic characteristics of their chosen site (e.g. topography, orientation, daylight, local climate) so that they can design in harmony with the site.

DESIGN

Working with the students, consider the position of their building / structure on the site. Discuss the reasons for locating it there, based on their understanding of the site characteristics. Tips: Maximise daylight with roof-lights and south facing windows to reduce energy costs in a temperate (Irish) climate. Incorporate natural ventilation by positioning openings to make use of the natural air flow. Consider shelter (vegetation or natural topography of the site). Think about using local, sustainable materials in the design.

In addition, encourage the students to source their own recycled / reusable materials for model-making.

PRESENT

Encourage the students to share one way in which they thought about sustainable design during the design process.

REFLECT

Facilitate a discussion with the students: what did they learn about sustainable design and designing in context (working in harmony with the natural characteristics of the site)?

Resources – Sustainable Design

Websites

Lifegate An organisation to share information, projects and services for people, businesses, NGOs and institutions that are committed to building a sustainable future.

lifegate.com/people/lifestyle/sustainable-architecture-definition-concept-projects-examples

Sustainable Energy Authority of Ireland (SEAI) Ireland's national sustainable energy authority.

seai.ie/teaching-sustainability/post-primary-school

Green Schools Ireland Ireland's leading environmental management and education programme for schools.

greenschoolsireland.org

Book

Heywood, H. 2012. 101 Rules of Thumb for Low Energy Architecture. London: RIBA Publishing.

THEME C – BUILT HERITAGE

Architectural built heritage is a very important cultural asset. It includes the historical buildings of Ireland; churches, castles, stone circles, monasteries, homes and public buildings of architectural merit. We are all trustees of our built heritage.

Design Process – Guidelines for Built Heritage

If your group of participating students have a particular interest in exploring their local built heritage for this project, the following suggestions will be relevant.

EXPLORE

Include an exploration of a heritage building in this section. It could be a national or international example. Discuss the architectural style, era, materials and condition of the structure. If it is close to your school, can the students visit it?

RESEARCH

The site (where?) could be an existing heritage building and / or an under-utilised building, or the site may be located beside a heritage building or architectural conservation area. The function (what?) could be informed by the current or previous use of the building. While the students are visiting the site, encourage them to find out about the history of the building. Some groundwork and background research will help you to be prepared (including obtaining historical maps).

DESIGN

Working with the students, consider how they will sensitively extend, renovate or design a new intervention in the context of the heritage building or area. If the building is a 'Protected Structure' there are guidelines regarding what can or cannot be altered. Any features of architectural merit must be preserved.

PRESENT

While the students are preparing their presentation, encourage them to include their understanding of and approach to designing within the context of our built heritage.

REFLECT

Facilitate a discussion with the students regarding new insights about our built heritage, and the challenges and opportunities of working within this context.

Resources – Built Heritage

Websites

An Taisce is a charity that works to preserve and protect Ireland's natural and built heritage.

antaisce.org/topics/built-heritage
greenschoolsireland.org

National Inventory of Architectural Heritage (Department of Culture, Heritage and the Gaeltacht) the purpose of the NIAH is to identify, record, and evaluate the post-1700 architectural heritage of Ireland.

buildingsofireland.ie/surveys/buildings

Irish Georgian Society promotes awareness and the protection of Ireland's architectural heritage and decorative arts.

igs.ie

'It's uplifting to be able to make a tangible change in the world around me, to see my ideas take shape into something real'

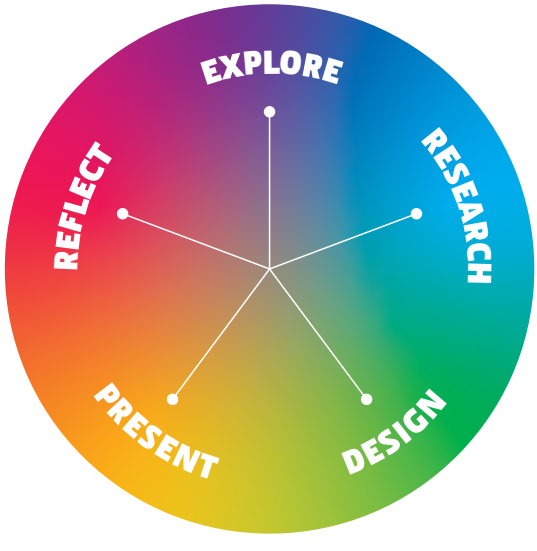
Student Participant

THE DESIGN PROCESS

Learning Support Guide

The following is a suggested framework for the delivery of this project. It corresponds with the student journal and is structured around the key stages of a design process: Explore, Research, Design, Present and Reflect. This is a non-linear process and students may move between, and repeat, the stages as they work. They will need guidance regarding the structure of the workshop sessions but do allow for flexibility regarding the creative flow.

The 'Explore' and 'Reflect' stages of the design process will work well for individuals or groups. The 'Research', 'Design' and 'Present' stages work best for groups.



EXPLORE

Be inspired by architecture and design

RESEARCH

Asking questions – what? who? where?

DESIGN

Imagining, developing and creating your ideas

PRESENT

Discussing your ideas and getting feedback

REFLECT

What did I learn?

1. Be Inspired
2. Space Study
3. Pages 6–9 (Student Handbook)
4. Group or Individual

EXPLORE

BE INSPIRED BY ARCHITECTURE AND DESIGN

This section introduces the students to some aspects of architecture before they start designing. The two activities can be facilitated by the teacher before the workshop sessions with the architect commence. The main aim is for students to start thinking about architecture and to articulate their own opinions. The activities will also help to increase their awareness of architecture as an artform and to prepare them for the DESIGN stage.

BE INSPIRED

Page 8 (Student Handbook)

mydesignjournal.ie/students/be-inspired
(search tools, weblinks, architectural styles, architect's profiles, architectural terms)

Group or Individual

Activity
TAKE A VIRTUAL TOUR

In the first exploration exercise, students can choose examples of local buildings or iconic examples of world architecture. At this point it helps to leave the discussion very open and the students' choices do not need to be critiqued. Rather, every idea is valued and listened to. Their opinions matter and the main aim is to facilitate student expression about architecture and design, expanding their visual and verbal vocabulary.

Refer to the online resources for a list of well-known architects and their work.

This exploration work can be referred to later on as a visual bank of architecture. The buildings chosen will not directly inform the design work, however they may provide some starting points.

Collage: Students can print an image of an inspiring building and create a collaborative collage. This can be wall mounted and visible throughout the project for inspiration.

Slide-show: Student groups can create a slide-show in PowerPoint for the class to view.

Materials / Resources
Computer, internet, printer.

Building Name
e.g. The Sydney Opera House

Architect / Date
e.g. Jorn Utzon / 1973

Location
e.g. Sydney, Australia

Why I chose it
Facilitate a class discussion and visual presentation for students to share their explorations and articulate their opinions about architecture.

SPACE STUDY

Page 9 (Student Handbook)

mydesignjournal.ie/students/space-study (starting points)

Group or Individual

Presentation: Students can make an informal presentation to share their experiences.

This activity could be facilitated during a class trip (either specifically for this project or as part of a scheduled school trip).

Activity

A FAMILIAR SPACE

The second exploration exercise is about encouraging the students to observe and record aspects of the built environment familiar to them. This could be a room, a part of a building, an entire building or a public space that they know well.

Facilitate a short discussion with the students to introduce the exercise: what spaces are they thinking of and why? Give guidelines about how they can record the spaces – photography, sketches, sound, video etc.

Materials / Resources
Sketchbook, a range of drawing materials, camera / phone.

My space is	**Why I chose it**
My home, school, community centre, library, art gallery, train station etc.	Encourage the students to share their opinions about the spaces they chose.

1. What?
2. Who?
3. Where?
4. Design Brief

Pages 10-15 (Student Handbook)

Group

RE-SEA-RCH

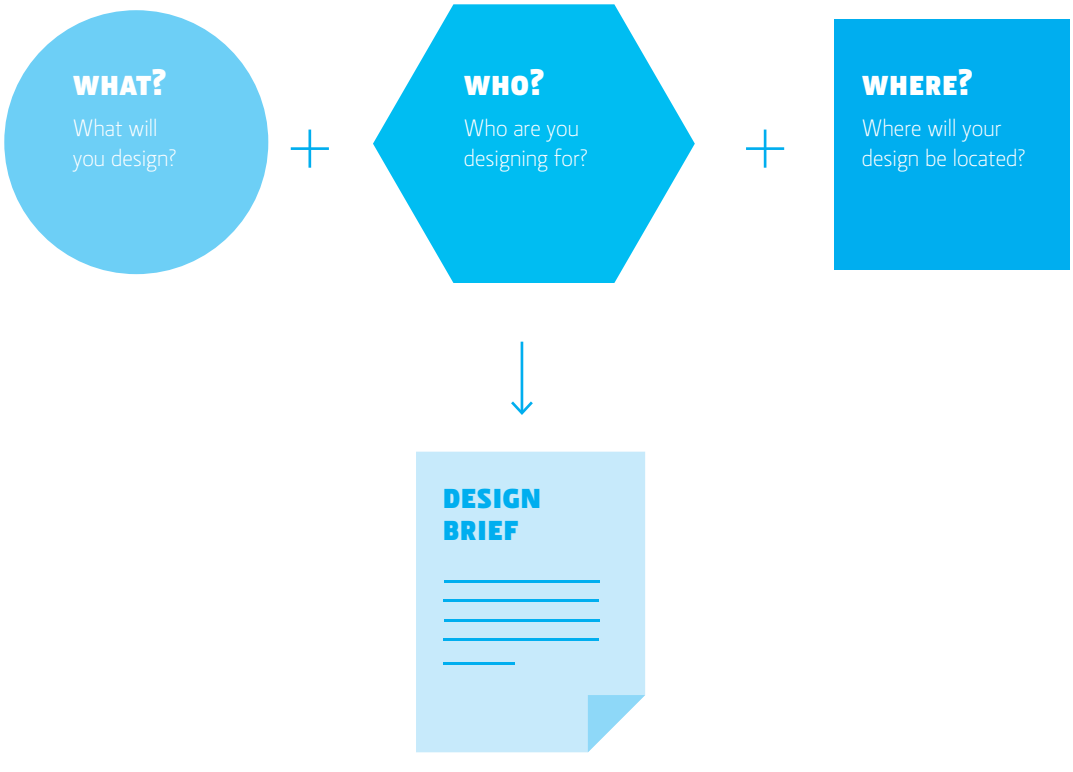
RESEARCH

ASKING QUESTIONS WHAT? WHO? WHERE?

The **RESEARCH** stage is very important as it will inform the **DESIGN BRIEF** giving students clarity and direction moving forward. It is the foundation for the **DESIGN** stage and will be used as a guideline and reference point throughout the project.

THE DESIGN BRIEF CRITERIA

Every design project has a purpose – what?
Is designed for someone to use – who?
And is located on a site – where?



Activity

ASKING QUESTIONS AND WRITING THE DESIGN BRIEF

With students working in groups, use mind-mapping and brainstorming to generate lots of ideas!

This activity works well with small groups working collaboratively, then sharing their ideas with the larger group.

Every building or design project has a purpose (what?), is designed for a particular user group (who?) and is located in a particular context (where?).

It can help to give tangible, familiar examples to the students before they start their research.

For example, a school:

What? What is the function of a school? A place for learning, a place for students to socialise, to eat and play sport, a place for staff to work.

Who? Who uses our school? Students, teachers, other staff members, visitors, parents?

Where? Where is our school located? Is it in a rural or urban setting? Is it close to public transport links? Why do you think this site was chosen? What are the characteristics of the site?

Materials / Resources
Coloured markers, A1 or A2 paper, post-its

'Taking part in this initiative has opened my eyes to work that architects do'

Student Participant

DESIGN BRIEF

Page 15 (Student Handbook)

The students can summarise their research in a table. They can refer to it when moving through the **DESIGN** stage. There may be one design brief for the entire group, or a number of design briefs, one for each smaller group. It is important that students have ownership over this process, with an appropriate level of practical support and guidance from you as the facilitator.

WHAT?

What will the students design?

Thinking about the type of space and the activities that will happen there
Page 13 (Student Handbook)

mydesignjournal.ie/category/blog
(current Architects in Schools project examples)

mydesignjournal.ie/students/design-idea
(idea workshop: about, how to's)

Also refer to **PROJECT THEMES** (Page 8)

Student prompts / questions to discuss:

- Are there any design issues or problems that need to be resolved in your school or local area?
- Do any new facilities need to be provided in your community?
- What activities could happen in the space you will design?
- What are the possible functions of the space you will design? How will it be used?
- Will it be a temporary or permanent space?

WHO?

Who are they designing for?

Thinking about the people who will use the space
Page 13 (Student Handbook)

mydesignjournal.ie/students/user-survey
(about public user surveys, how to's)

- Support the students in identifying possible user groups (e.g. the students themselves, local community groups, youth clubs, sports groups etc.). This could link in with other school projects / class visits.
- It can help for the students to imagine a real character as an end-user of a space, and to create a profile for them. This character could be illustrated and named, and displayed on the wall as a visual labelled guide to help in their awareness of end-user requirements.
- Consider accessibility, age, how frequently the space will be used.
- Students can meet with and interview their user group if time allows.
- Role-play is a fun and engaging way to engage students.

The information gathered during the research stage informs the **DESIGN BRIEF** – now the students can start the **DESIGN** stage with this information to guide them.

WHERE?

Where will the design be located?

Thinking about location, site and context
Page 14 (Student Handbook)

mydesignjournal.ie/students/map-your-space
(types of maps, sourcing maps, use of maps, how to's, websites)

mydesignjournal.ie/students/investigate
(notes on observation, fact sheets on materials)

- Consider possible sites for your design project. Locations could include the school grounds, a site in the local area or a site that the students have visited as part of a school trip. These could be presented to students as feasible options, from which they can choose. It helps if the site is accessible and nearby.
- Types of sites include rural, urban, the re-use of an existing building, a site on the school grounds, an addition or alteration to the school etc.
- In advance, you could gather information about a few potential sites (OS maps, Google Earth images, historical maps, archive photos). As this project is relatively short, this groundwork can help.
- Visit the site with the students – explain the importance of spending time in it, exploring it, investigating it, observing and recording it, to understand the site characteristics. They can build on what they learned in the **SPACE STUDY** exercise.
- Site analysis: While recording / mapping the site, the students could customise a copy of an OS Map with their observations and findings to make their own site plan. They can add notes, photos and drawings. This can be used as a base for the **2D DRAWING** and **3D MODEL** later.
- Explore the importance of designing in context with the students.

1. Design Principles
2. Concept Design
3. 2D Drawing
4. 3D Modelmaking

Pages 16–21 (Student Handbook)

Group

DES-IGN

DESIGN

IMAGINING, DEVELOPING AND CREATING YOUR IDEAS

DESIGN is informed by the **DESIGN BRIEF** and is activated by the students' individual and collective imagination.

DESIGN PRINCIPLES

Overview
This section introduces some design principles, giving students a framework to think through some possible ideas. Facilitate a discussion with the students to give them some starting points for the **CONCEPT DESIGN** stage.

Page 18 (Student Handbook)

Context location and characteristics of a site, informing a design

Scale relationship between real and represented size

Form the 3-dimensional shape of an object

Light creates atmosphere and influences our perception of a space

Materiality material quality and sensuality of a space

Structure supporting elements of architecture

Circulation how people move around a space

Enclosure a space created by elements surrounding it

Space exists between objects and within / around a form

Repetition recurrence of design elements

Proportion the relationship between elements relative to one another or to a composition as a whole

Symmetry a balanced arrangement of design elements

Rhythm a pattern of related design elements

Axis a linear relationship between spaces

Hierarchy relative importance of related spaces

GLOSSARY Student Handbook (Page 32)

CONCEPT DESIGN

Page 19 (Student Handbook)

mydesignjournal.ie/students/design-idea
(idea workshop: about, how to's)

Activity
GENERATE IDEAS

Encourage student groups to explore idea generation. At this point facilitate the exploration of many different concepts, later supporting each group in their choice of one main concept to develop through drawings and model-making.

Every idea is valid and can be expressed!

Materials / Resources
A1 or A2 paper, card, range of drawing materials.

2D DRAWING

Page 20 (Student Handbook)

mydesignjournal.ie/students/2d-drawing
(drawing definitions, scale, sketches, collage, perspective, plan, section)

Activity
DRAW YOUR DESIGN

Encourage the students to experiment with drawing materials and techniques including collage, sketching and technical drawings. The website shows clear examples of different types of drawings.

Explain, with examples:
– Orthographic drawings

– The use of scale in architectural drawings

The purpose of architectural drawing is to work out an idea – the process is as important as the result. Suggest the use of overlays (tracing paper or sketch roll) to resolve design challenges and to work through ideas.

Drawing and model-making can be interchangeable. Many students find it easier to begin with model-making, then to develop drawings in parallel.

Materials / Resources
Tracing paper, cartridge paper, pencils, erasers, charcoal, pastels, scale ruler, set square, OS Maps.

3D MODEL

Page 21 (Student Handbook)

mydesignjournal.ie/students/3d-model
(context model, concept model, building model, photographing your model)

Activity
MODELLING YOUR DESIGN

Refer to the website for practical tips, instructions and a variety of approaches. Supervise the use of scalpels and ensure student safety.

Encourage an imaginative approach to materials and construction methods. Creative solutions and unusual materials are encouraged.

Remind students to photograph the models at different stages. The images will be useful later for display or for sharing on the website.

Store models in an assigned area in the classroom.

Materials / Resources
Cutting mat, steel ruler, scalpels, foam-core board, mounting board, A1 and A2 card, balsa wood, lollipop sticks, barbeque skewers, glue, scissors, staplers. Computers: Minecraft and SketchUp can be used to design virtual 3D spaces.

Get students involved in sourcing materials for their project, including recycled items, to add to school resources.

Pages 22–25 (Student Handbook)

Group

PRESENT

PRESENT

SHARING YOUR IDEAS AND GETTING FEEDBACK

Encourage and support the students to share their design ideas with the class, school and local community.

PRESENT

Page 24 (Student Handbook)

mydesignjournal.ie/students/present-discuss (how to present your work, examples of exhibitions/presentations, websites)

Group

Types of Presentations

There are many ways in which the models, drawings and other project outcomes can be displayed and communicated.

- School based presentations: class exhibition, school website or newsletter. Invite the school principal and other interested staff. Consider organising a visible display in the school common spaces or an open classroom event.
- Local presentation or exhibition: display at a library, community centre or shopping centre. If relevant, you can invite the end-user (e.g. a community representative) to hear about the students' ideas.
- Website: Encourage students to select key images and to write a short project description. Email the IAF with the information as the website is updated regularly.

Refer to 'Documenting your Project' in the Project Planning + Preparation section (page 5)

In addition to the final presentation, incorporate regular infomal presentations throughout the design process.

Activity

PREPARE YOUR PRESENTATION

Assist the students in preparing their presentation.

Verbal presentation: Assist with the structure – outline the **CONCEPT DESIGN**. Remind students to refer to the **DESIGN PRINCIPLES** and the **DESIGN BRIEF** to explain their design ideas.

Visual presentation: Assist the students in the selection of their work for the presentation or exhibition – key images, **2D DRAWING** and **3D MODEL** to tell the story of their design.

Facilitate an open discussion with constructive critique and feedback. Ensure that all groups have the opportunity to present to the class so that all students get an overview of all the design ideas. Ensure all voices are heard.

Materials / Resources

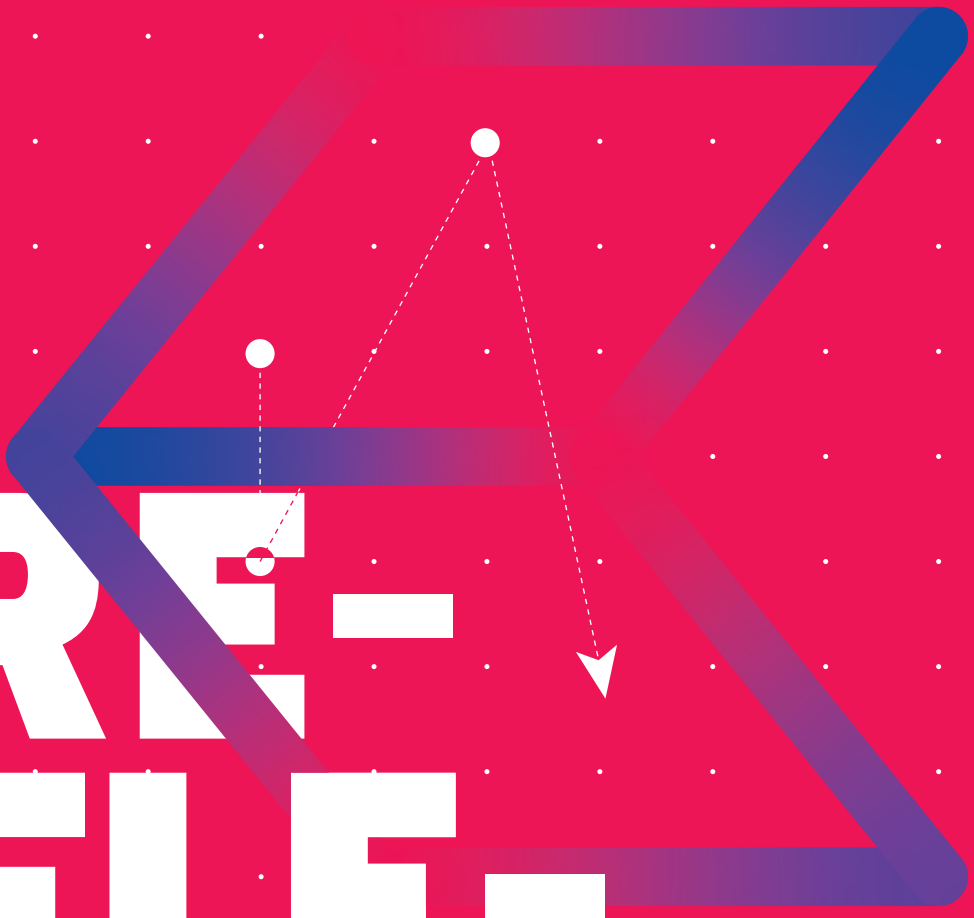
Models, photos of models and work in progress, original drawings, design brief, display boards, computer with PowerPoint, projector

‘We learned some valuable skills we will apply to other situations in the future’

Student Participant

Pages 26–29 (Student Handbook)

Group or Individual



RE-
FLE-
CT

REFLECT

WHAT DID I LEARN?

Facilitate students to reflect on their design project and on their participation in this initiative.

REFLECTING

Page 28 (Student Handbook)

mydesignjournal.ie/students/brief-10-reflect
(your thoughts on the project)

Group or Individual

Reflecting on the design process
Student prompts / questions to discuss:

What would you change or improve about your design after getting feedback?

What inspired you most during the design process?

Which stage of the design process did you enjoy most / find most challenging?

What would you do differently in the future?

- Reflection is an important part of the design process.
- Encourage the students to reflect on their ideas at all stages throughout the project.
- Explain the value of feedback and how it can help with learning and reflection.
- As a facilitator take this opportunity for reflective practice on your role in the design process.

Reflecting on my overall experience
Student prompts / questions to discuss:

Has your participation in this initiative changed the way you think about architecture and design?

How did you work collaboratively as part of a group?

What new skills did you develop?

- Encourage the students to express their individual voices and to also reflect on the team experience.
- What new skills did they learn? How can they apply these in other situations in the future?
- Reflect on your experience as a facilitator and share your insights with IAF – this is usually via an online survey towards the end of the academic year.

Materials / Resources
Paper, pencils, post-its, markers.

‘Anyone can design.
It all starts with an idea’

Student Participant

Reflecting on the design process (as a facilitator)

Reflecting on my overall experience (as a facilitator)

APPENDIX 1

Project-Based Learning

The project-based learning approach of this initiative supports both individual and group research and design activities, providing diverse learning opportunities and cross-curricular links. The skills acquired have the potential to be taken forward by the students, empowering their future learning.

Project-based learning facilitates the exploration of a range of skills

- Development of cognitive skills, including numeracy and literacy
- Visual-spatial abilities
- Process learning
- Problem solving skills
- Critical, creative and innovative thinking
- A willingness to experiment
- Creating and exhibiting in 2D and 3D
- Communication and presentation skills

Project-based learning and career awareness

Architects in Schools has been designed to give students an understanding of how a professional architect works in practice: responding to a design brief, collaborating with others and communicating design ideas, visually and verbally. Project-based learning is a dynamic approach to teaching in which students explore real-world problems and develop cross-curricular links, while working in small collaborative groups. In addition, the opportunity to collaborate with an architect can help enhance career awareness.

APPENDIX 2

Resource Development + Acknowledgements

The Architects in Schools 'Student Handbook' and 'Facilitator Handbook' are published by the Irish Architecture Foundation, 2019.

Author
Blaithin Quinn, Architect-Artist-Educator

Qualifications: Bachelor of Architecture (University College Dublin, 1995); Bachelor of Arts (1st Hons) Visual Arts Practice (Institute of Art, Design and Technology, 2010); Master's Degree, Visual Arts Education (National College of Art and Design, 2013).

With special thanks to
Aideen McCole, Education Curator, Irish Architecture Foundation

Ruth Connolly and Aisling Clancy, Real Nation

Susie Lynam, Designer and Educator

Maya McClelland, Secondary School Student

The 4th and 5th Year Students (2018–19), Presentation College Bray, Co.Wicklow

Mike Conway, Teacher, Presentation College Bray, Co.Wicklow

Research and Development
The 2019 publications of the Architects in Schools, 'Student Handbook' and 'Facilitator Handbook' are based on a consultation process which included the following:

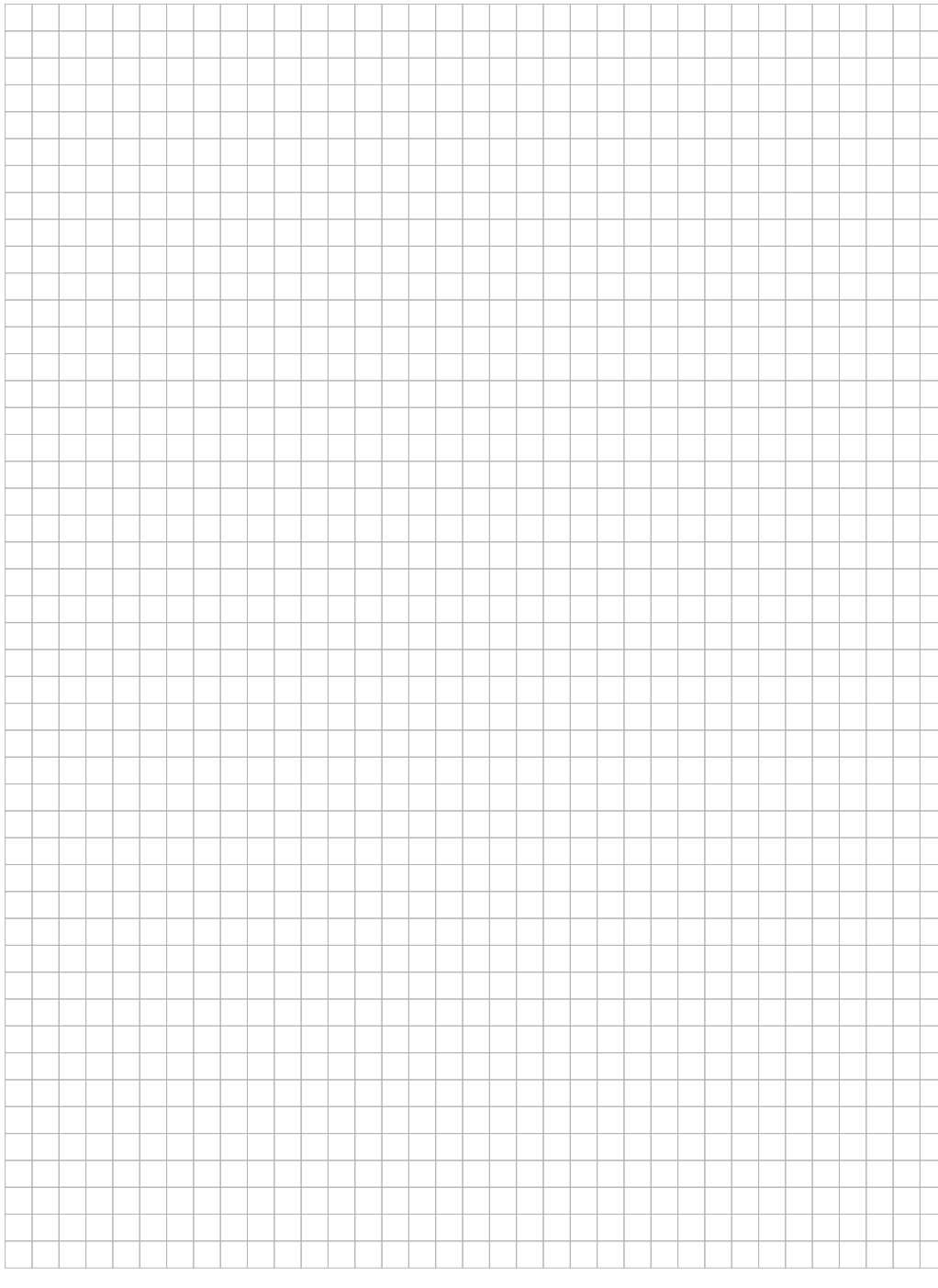
- Focus Group (Architects and Teachers), Real Nation, March 2019
- Working Group Feedback (Students), Presentation College Bray, March 2019
- Online Surveys (Teachers, Architects and Students), Irish Architecture Foundation, June 2019

Note
The 2019 publications are based on the 2013 publications 'Teacher's Handbook' and 'My Architecture Design Journal' co-authored by Rachel McAree and Simone Murray. These publications involved an extensive research process including consultation with architects, teachers, students and education professionals, with input from IAF Architects in Schools Working Group (Aoife Banim, Patsey Bodkin, James Bourke, Noel Brady, Lorraine Comer, Eamonn Greville, Margaret Keenan, Simone Murray, Eileen O'Connor, Noel O'Neill), and Dr. Rosie Parnell, Dr. Cara Courage, Victoria Thornton, Fingal County Council Arts Office, National College of Art and Design, Association of Teachers' Education Centres in Ireland.

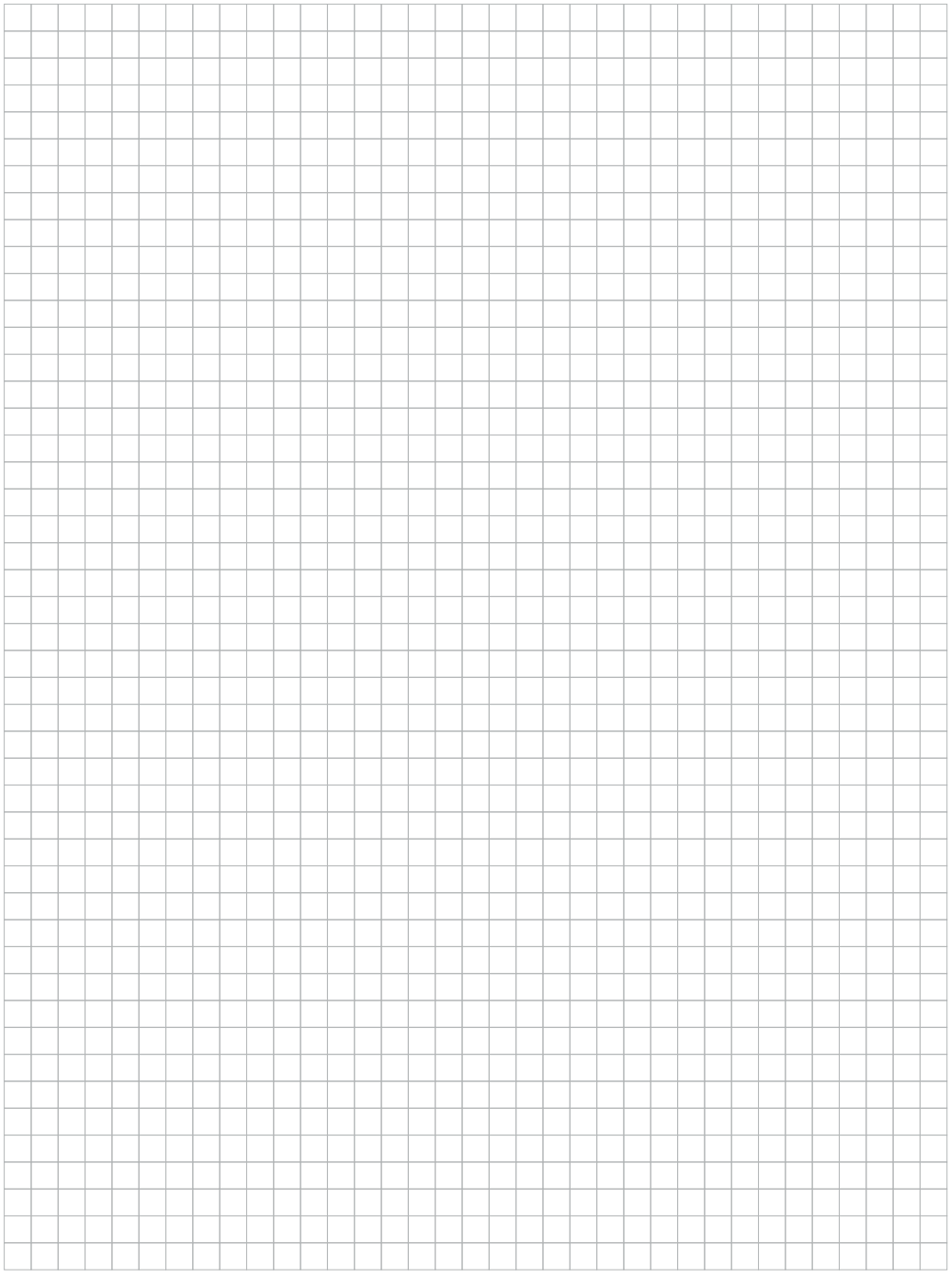
Rationale
The 2013 publications were developed in response to an Irish Architecture Foundation project in 2011 entitled 'A Space for Learning'. This project was centred around school redesign and the previous publications were very well suited for that purpose. In order to reflect the emerging diversity of Architects in Schools, project outputs and themes, the 2019 publications are more universal and adaptable for many different design projects. The revised, updated and renamed 'Facilitator Handbook' includes new sections on Project Planning + Preparation and Project Content + Themes. The revised and updated 'Student Handbook' includes new Glossary, Careers and Resources sections. Both publications include a revised Design Process section.

Funders
Architects in Schools, is supported by the Arts Council of Ireland, the Department of Culture Heritage and the Gaeltacht, and the Department of Education and Skills.

SKETCHES + NOTES



SKETCHES + NOTES



mydesignjournal.ie

Irish Architecture Foundation

an arts council ealaíon funding architecture artscouncil.ie

An Roinn Cultúir, Oidhreachta agus Gaeltachta
Department of Culture, Heritage and the Gaeltacht

An Roinn Oideachais agus Scileanna
Department of Education and Skills