

ITAP 1 – How do I start lessons in a calm and purposeful manner?

To begin to be able to:

- Start a lesson in a calm and controlled manner
- Obtain silence and pupils' attention
- Respond effectively to disruption during teacher talk

We recommend the teaching episodes in ITAP 1 are around pupils entering, engaging with entrance tasks (if appropriate) and student teachers completing the review of the task, obtaining and maintaining silence in the process

ITAP 1 – Design & Technology Guidance:

- We want student teachers to take responsibility for the start of lessons by **welcoming pupils into the D&T classroom or workshop, ensuring they enter calmly and safely, and directing them to the starter or DO NOW task**. This may involve retrieval practice, design development, drawing, annotation, materials and processes knowledge, or a short practical skills activity. Establish clear expectations for **equipment, materials, movement and workshop routines** from the outset.
- Once pupils have had sufficient time to engage with the task, gain their attention using a **countdown, agreed classroom signal or in line with school policy**. Ensure pupils stop working, put tools and equipment down safely where appropriate, and are ready to listen. Briefly review the task, using questioning and concise teacher talk to check understanding and address misconceptions.
- Student teachers should develop the ability to **maintain calm and purposeful routines when pupils are moving between teacher instruction and practical activity**. This includes giving clear instructions about when pupils may collect equipment or materials, where they should work, and how they should use and return resources safely.
- Address disruption consistently and calmly in line with the **school's behaviour and workshop safety policies**. Where no specific policy applies, use clear, concise warning language and reinforce expectations for **safe, respectful and purposeful behaviour**.

To begin to be able to:

- Start a lesson in a calm, controlled and purposeful manner
- Obtain pupils' attention and establish silence when required
- Establish clear routines for equipment, materials and movement within D&T learning environments
- Respond effectively and consistently to disruption during teacher talk and practical transitions
- Establish expectations that enable pupils to work **safely, independently and purposefully**

Enter → settle → Do now/starter → attention → review → safe transition into learning/practical activity.

ITAP 2 – How do I model and explain knowledge, processes and skills in my subject?

To begin to be able to:

- Model and explain one aspect of my subject
- Break down complex concepts or skills into bite-size chunks
- Practise the ‘hand-over’ from teacher to pupil activity

ITAP 2 – Design & Technology Guidance

- Developing from ITAP 1, where student teachers are confident in taking responsibility for the lesson start, they can move into **modelling and explaining D&T knowledge, processes and practical skills**. Collaboratively plan with mentors and/or class teachers, identifying the key knowledge or skill pupils need to understand and breaking the process into **clear, manageable steps**.
- D&T student teachers should prepare and use **high-quality worked examples and live modelling** to make processes, techniques, design thinking and decision-making visible to pupils. This might include demonstrating the safe and accurate use of tools and equipment, modelling a manufacturing process, demonstrating drawing or CAD techniques, or modelling how to develop and evaluate a design. Avoid modelling the whole process at once; **model one stage or decision before moving onto the next**.
- Use **clear, concise explanations alongside demonstration**, explicitly identifying key vocabulary, success criteria, common misconceptions and safety considerations. Where appropriate, use questioning during modelling to check pupils' understanding and make the thinking behind a process or design decision explicit.
- Provide opportunities for **guided practice before pupils work independently**. Check understanding through questioning, observation and formative assessment, and respond to misconceptions before pupils continue. The student teacher should then **'hand over' responsibility to pupils**, ensuring they know what they are expected to do, what resources they need, and how to work safely and successfully before beginning their own practical or design work.

To begin to be able to:

- Model and explain D&T knowledge, processes, practical skills and design decisions clearly
- Break down complex processes, concepts and skills into **clear, manageable steps**
- Use worked examples and live modelling to make **processes, techniques and thinking visible**
- Check pupils' understanding during modelling and respond to misconceptions
- Practise the **'hand-over' from teacher modelling and guided practice to independent pupil activity**
- Establish clear expectations for **safe, accurate and purposeful practical work**

ITAP 3 – How do I ask and respond to questions in my subject to check understanding?

To begin to be able to:

- Ask effective questions to check pupil understanding
- Respond effectively to hesitant or incorrect pupil responses
- Explore different modes of pupil responses (e.g. written responses)

ITAP 3 – Design & Technology Guidance:

- Student teachers can build on ITAP 2 by using **questioning alongside live modelling and worked examples** where they are confident. We want to see student teachers give pupils sufficient **wait time**, acknowledge effective responses and use probing questions to develop and extend understanding. Questions should be used to identify misconceptions before pupils move into practical or independent work.
- Use a range of questioning techniques, including **cold calling, think-pair-share, targeted questioning, probing questions and whole-class responses**, to check understanding and encourage participation. Where appropriate, allow pupils time to think, sketch, annotate or rehearse their ideas before responding. Use questioning inclusively so that pupils are encouraged to contribute without creating a fear of getting an answer wrong.
- Student teachers should use questioning to check **recall of prior knowledge and understanding of new D&T knowledge, materials, processes, tools and techniques**. During live modelling, ask questions such as: *What should I do next? Why would this process be appropriate? What could happen if I did this incorrectly? How could I improve the accuracy of this?* Use pupils' responses to adapt explanations and modelling where necessary.
- Use questions to make **design thinking and decision-making visible**. Rather than simply asking pupils what they have made, encourage them to explain **why** they have selected a material, process, mechanism, construction method or design solution. Questions should encourage pupils to consider **function, user needs, aesthetics, sustainability, materials, manufacture, accuracy and evaluation**, appropriate to the phase and project.
- During practical and design activity, use **responsive questioning** to move pupils' thinking forward rather than immediately providing solutions. For example: *What have you noticed? Why do you think that has happened? What could you change? Which material or process might solve this problem? How do you know?* The focus is on helping pupils develop **independence, problem-solving and the ability to justify design and manufacturing decisions**.

To begin to be able to:

- Ask effective questions to **check and develop pupils' understanding of D&T knowledge, processes and skills**
- Use questioning to identify and address **misconceptions**
- Respond effectively to **hesitant, incomplete or incorrect responses**
- Use probing questions to develop pupils' **design thinking, problem-solving and decision-making**
- Use a range of response modes, including **verbal responses, written responses, sketches, annotations and practical demonstrations**
- Use questioning to promote **pupil independence and the ability to justify design and manufacturing decisions**

ITAP 4 – How do I deploy a subject-specific pedagogy effectively?

To begin to be able to:

- Use subject-specific pedagogy to support pupil knowledge, understanding and skills
- Promote the use of appropriate subject-specific vocabulary
- Recognise and respond to common pupil misconceptions associated with learning my subject

Subject leads to identify the specific pedagogy and send general mentors the brief overview of supporting literature

ITAP 4 – Design & Technology Guidance:

- With the focus on **subject-specific D&T pedagogy**, student teachers should consider how pupils' existing knowledge and skills provide the foundation for new learning. Mentors/class teachers should support student teachers to understand the **sequence of learning within the scheme of work**, including the prior knowledge, practical skills and processes pupils need before they can successfully complete the intended outcome.
- Student teachers should plan how they will **chunk D&T knowledge, processes and practical skills** into manageable stages. This might include the use of teacher explanation, live modelling, worked examples, guided practice, questioning and opportunities for pupils to apply their learning. Student teachers should consider the appropriate point at which responsibility is handed over to pupils and how tasks build towards **independent designing, making and evaluating**.
- Student teachers should explicitly teach and reinforce **subject-specific vocabulary**, including the terminology associated with materials, tools, processes, mechanisms, manufacture, design decisions and evaluation. They should model accurate use of terminology and provide opportunities for pupils to use subject language when **explaining, justifying and evaluating** their own work.
- Student teachers should anticipate and respond to **common misconceptions in D&T**. These may relate to material properties, tools and processes, manufacturing methods, mechanisms, structures, electrical or electronic systems, sustainability, function or the relationship between design decisions and the intended user. Mentors should support student teachers to identify likely misconceptions and design questions, demonstrations or practical activities that make these visible and address them.
- For example, when teaching a **manufacturing process**, the student teacher might first establish pupils' prior knowledge of the material and its relevant properties, before modelling the process in small stages. Pupils could then complete a guided example, with questioning used to identify misconceptions about **material selection, tool use, accuracy or sequencing**. Before pupils begin their own work, the student teacher should check that they understand not only *what* they are going to do, but **why the process is appropriate and what constitutes an accurate and safe outcome**.
- The focus should be on developing pupils who can **apply D&T knowledge rather than simply reproduce a demonstrated process**. Student teachers should increasingly ask pupils to select appropriate materials and processes, justify design and manufacturing decisions, solve problems and evaluate outcomes against criteria such as **function, user needs, aesthetics, sustainability and manufacture**.

To begin to be able to:

- Use subject-specific D&T pedagogy to support the development of **knowledge, understanding and practical skills**
- Plan learning that builds from **prior knowledge towards increasingly independent designing, making and evaluating**
- Use appropriate **D&T vocabulary** accurately and encourage pupils to use subject-specific language
- Recognise and respond to **common misconceptions associated with D&T knowledge, materials, processes and practical skills**
- Use modelling, guided practice, questioning and practical activity to **scaffold pupils towards independent application**
- Support pupils to **justify design and manufacturing decisions** using appropriate D&T knowledge