# **Primary Initial Teacher Education: Curriculum Plan**

# **Design and Technology - Undergraduate Programmes**

# **Links to Practical Knowledge, Substantive/Theory, Disciplinary**

**Curriculum Vision:**

Through our initial Teacher Education Curriculum, it is our intention that all Edge Hill Primary teacher trainees will:

 be able to plan and teach high quality design and technology lessons.

 gain knowledge and understanding to develop a range of skills, learning behaviours and attitudes to support

progress across the curriculum.

 know that high quality design and technology education makes an essential contribution to the creativity,

culture, wealth and well-being of the nation.

 develop confidence and promote an enthusiasm for design and technology and believe all children can be

successful in the subject regardless of social background or other circumstances and that this is our moral

purpose as educators.

| **Phase 1** | | | | | | | | | | |
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| **University Based Learning** | | | | **Practical Based Learning** | | | | | | |
| **Learn That** | | **Learn How** | | **Learn That** | | | | **Learn How** | | |
| **Component Knowledge** | There are principles of high quality design and technology teaching: The  iterative process of researching, designing, making and evaluating products.  LT 1.1, LT1.4, LT3.1 | Plan a design and technology lesson or project over a short series of lessons.  LH2.1, LH2.2, LH2.4, LH2.5, LH2.6, LH2.9 LH3.1, LH3.3, L3.4 | | Experienced teachers with strong SK,  plan D&T lessons by carefully  integrating substantive and disciplinary  knowledge, breaking these down into  small steps and fully inclusive of all  learners.  LT3.2, LT5.1, 5.3, 5.7 | | | to plan and teach a design and technology lesson or small series of lessons,  taking the time to extend own D&T  SK as part of the process. Learning  should be broken down into small  steps and formative information  gathered in readiness for the next  lesson.  LH8.2, LH2.1, LH2.3, | |  |
| There are four aims of the National Curriculum for Design and Technology  LT3.1 |  | |  | | |  | | Intent |
| There are six key areas of study in the primary DT curriculum  LT3.1, LT3.2, LT3.5 |  | |  | | |  | |
| That children need to investigate and evaluate existing products before designing  their own.  LT3.2, LT3.6, LT3.7, LT4.6 | Provide opportunities for children to research and evaluate existing  products. This will be consolidated whilst on professional practice.  LH2.4, LH3.14, LH3.10, LH3.4 | | An experienced teacher will provide opportunities for children to research existing products or carry out market research before designing their own product.  LT3.2, LT3.6, LT3.7, LT4.6 | | | With the support of expert mentors, provide product analysis and market research opportunities.  LH2.4, LH3.14, LH3.10, LH3.4 | |
| That products are designed using several strategies such as exploded  diagrams, annotated drawings.  LT4.2, LT4.4, LT4.8 | Provide opportunities for children to learn how things work by  deconstructing products. LH4.3, LH4.7, LH4.10, LH4.12, LH4.14, LH4.15 | |  | | |  | |
| A mock-up is a model which looks like the real thing but does not show its  functionality.  LT3.2. LT3.3, LT3.4, LT3.5, LT3.6 | Provide appropriate and meaningful scenarios for children to design a  simple product in accordance with a design brief. LH.14, LH4.15 | |  | | |  | |
| That products are made using a variety of materials and tools including  construction materials and textiles.  LT3.2. LT3.3, LT3.4, LT3.5, LT3.6 | Provide appropriate tools and resources for children to select from to make their product.  LH3.3, LH3.5, LH3.10 | |  | | |  | |
| That products need to be evaluated for their effectiveness using simple criteria  with the initial brief in mind.  LT6.4, LT6.5, LT6.6 | Support children in evaluating the effectiveness of their finished  products against a given criteria.  LH6.1, LH6.6, LH6.3, LH6.12 | |  | | |  | |
| That there is subject specific vocabulary in Design and Technology which  children need to use effectively and fluently.  LH3.20 |  | |  | | |  | |
| Basic health and safety rules. For example, children need to be taught how use  simple tools such as scissors and kitchen knives safely.  LT 5.1, LT5.3, LT5.5, LT5. LT7.2, LT7.4 | Manage risk and behaviour in practical design and technology lessons.  LH7.1, LH7.3, LH7.4, LH7.5, LH7.6, LH7.8, LH7.12, LH7.16 | | effective behaviour management begins in the planning stages and is particularly important when working practically in D&T.  LT 7.1  Risk assessments may need to be planned for within some D&T projects. | | | An experienced mentor manages  behaviour in practical D&T lessons  through observation and discussion.  to manage behaviour and resources in D&T.  LH 7.2; 7.  How to write a risk assessment with the support of expert colleagues. | |
| The role of government approved organisations in supporting the teaching and  learning of design and technology (Design and Technology Association,  National Expert group for Design and Technology)  LT8.3, LT8.7, LH8.3 | Plan for additional adults effectively.  LH5.7, LH8.5, LH8.11, LH8.12, LH8.15 | |  | | |  | |
| The progression of skills and knowledge within a given strand of design and  technology from EYFS to Y6.  LT2.2, LT2.3, LT2.4, LT2.5, Lt2.6, LT2.7, LT2.8 | Identify basic skills required for specific making tasks and teach these  skills including rules for health and safety.  LH4.2, LH4.5 | |  | | |  | |
| That products are designed and made with a specific need/problem in mind  and have a specific audience.  LT2.1, LT3.1 |  | |  | | |  | |
|  | Specific understanding of how simple mechanisms work, eg, hinge  mechanisms, levers, linkages.  LT3.2, LT3.3 | Design and make products using a simple mechanism such as a slider, pop-up, wheel and fixed pivot. | | There is specific technical knowledge and skills associated with different strands of D&T.  LH3.2, LT 3.3. | | | To use specific technical knowledge and practical skills in different contexts after observing and with the support of expert colleagues. | |  |
|  | The NC end points for the Cooking and Nutrition strand  LH3.5, LH3.6, LH3.7, LH3.8 | How to identify the component knowledge required to achieve ambitious end goals from the NC in the Cooking and Nutrition strand.  LH3.1, LH3.8 | |  | | |  | |  |
|  | About food miles and seasonality. (sustainability) | Plan a meal using sustainable and seasonal produce. (sustainability) | |  | | |  | |  |
| **Assessment** | **Assessment** | | | **Assessment** | | | | |  |
| *What is being assessed?*  * All sessions begin with an informal retrieval activity.*  * All sessions provide opportunities for students to model teaching of specific skills and knowledge.*  * Students are to produce a lesson plan in their final session.*  *PED1024 assignment*  *All of the above to inform interventions.* | *How is it being assessed?*  Online test  Assignment | | *What is being assessed?*  *Subject knowledge*  *Pedagogy* | | *How is it being assessed?*  Assessed throughout Professional Practice 1.   Mentors will assess students against these statements and feedback to link tutors via  the weekly development summary.   Feedback will be provided to student and link tutor by mentor. | | | Impact |
| **Composite Knowledge** | **Composite knowledge/understanding/skills** | | | | | | | |
| *By the end of this phase trainees will* ***know:*** | | *By the end of this phase trainees will* ***understand:*** | | *By the end of this phase trainees will* ***be able to:*** | | | |
| That every teacher can develop children’s  creative, technical and practical expertise  to perform everyday tasks confidently and  specific tasks to meet specific needs.   Key approaches and skills to teach simple  mechanisms.  LH3.14, LH3.8, LH3.20   Key approaches and skills to teach  nutrition, where food comes from,  seasonality and sustainable diets.  LH3.14, LH3.8, LH3.20   Essential rules for health and safety.  LH7.8, LH7.11 | | The iterative nature of the design and technology.   The importance of effective behaviour  management and how to manage risks to health  and safety.  LH7.1, LH7.2, LH7.3, LH7.4, LH7.5, LH7.7, LH7.12 | |  Model effective practice in the teaching of  simple mechanisms and food and nutrition.  LH3.1, LH3.2, LH3.3, LH3.7   Confidently plan a Design and Technology  lesson following the Iterative process.  LH2.4, LH2.5, LH2.9 | | | |
| **Research** | **KEY RESEARCH****That Trainees will know that informs teaching and learning in Art and Design** | | | | | | | | |
| **National Curriculum for Design and Technology 2014**  ** Teaching Design and Technology – Food in Primary Schools from Food – a Fact of Life (DATA) Key research article.**  ** www.data.org.uk**  ** The really useful primary design and technology book Elizabeth Flinn and Sarah Patel (2016)**  ** www.foodafactoflife.org.uk**  ** Mastering Primary Design and technology book by Gill Hope** | | | | | | | | |

| **Phase 2** | | | | | | | | | | |
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| **University Based Learning** | | | | **Practical Based Learning** | | | | | | |
| **Learn That** | | **Learn How** | | **Learn That** | | | | **Learn How** | | |
| **Component Knowledge** | There is specific technical knowledge and skills associated with different strands of D&T.  LH3.2, LT 3.3. |  | | Some children will require support to achieve their learning outcomes.  LT5.1, LT5.2, LT5.3 | | | How to adapt learning for  children with identified SEND  LH5.1, LH5.2, LH5.3, LH5.7  LH5.8 | | Intent |
| Collaborative learning and  dialogue are effective  approaches to problem solving in  design and technology.  LT4.7, LT4.9, LT4.12, LT4.13 | To break down NC end points into  component knowledge.  LT3.3, LH2.8, LH4.1 | | Cross-curricular teaching can be a beneficial approach to integrating D&T in a meaningful context. | | | Design a lesson linked to a theme.  LH3.7, LH3.8 | |
| The importance of direct teaching.  LH4.3 | Design a lesson linked to a theme.  LH3.7, LH3.8 | |  | | |  | |
| The importance of questioning.  LT4.6, LH4.15, LH4.16, LH6.4,  LH6.6 | Model basic health and safety  rules regarding safe use of  equipment/hygiene if  appropriate.  LH4.8LH4.2, LH4.7 | | Building effective relationships is easier when pupils believe that their feelings will be understood.  LT7.5 | | | Manage behaviour in a practical lesson under the guidance of the school mentor.  LH7.2, LH7.3, LH7.4, LH7.5, LH7.6, LH 7.7 | |
| That first attempts in design and  making may not be successful  but pupils should be encouraged  to evaluate these and refine as  appropriate.  LH1.3 | Model positive learning behaviours and attitudes in design and  technology lessons if appropriate.  LH7.1, LH7.3, LH7.4, LH7.5, LH7.6,  LH7.8, LH7.12, LH7.16 | | Building resilience by ensuring all pupils have the opportunity to experience meaningful success.  LT7.4 | | | Plan for additional adults.  LH5.7, LH8.5, LH8.11, LH8.12,  LH8.15 | |
| Learning outside the classroom (LOtC)  Is an effective teaching approach which enhances children’s cultural capital LT 1.1, LT1.2, LT1.3, LT1.4, LT1.5 |  | |  | | |  | |
| **Assessment** | **Assessment** | | | **Assessment** | | | | | Impact |
| *What is being assessed?*  Subject knowledge.  How to plan an effective series of lessons. | *How is it being assessed?*  Online assessment  Plan a short series of lessons. | | *What is being assessed?*  Subject knowledge and pedagogy. | | *How is it being assessed?*  Lesson observations by school-based mentor. Students meet the subject knowledge requirements to proceed as set out in the Interim Placement Progress Report and End of Placement Progress report. | | |
| **Composite Knowledge** | **Composite knowledge/understanding/skills** | | | | | | | |
| *By the end of this phase trainees will* ***know:*** | | *By the end of this phase trainees will* ***understand:*** | | *By the end of this phase trainees will* ***be able to:*** | | | |
| The key components of a successful  Design and Technology lesson.  The practical knowledge and associated  skills to make a product.  LT2.1. LT2.2, LT2.3, LT2.4, LT2.5  The relevant substantive knowledge to  explain reasons for their choices.  LH3.8. LH3.9 | | How to adapt Design and Technology lessons to  meet the needs of all pupils.  LH5.1, LH5.2, LH5.3, LH5.7  LH5.8  That design and technology can be taught within a  cross-curricular theme.  LH3.7, LH3.8 | | Confidently plan and teach high quality  design and technology lessons.  LH1.3  Reflect on their teaching and consider how  they might improve their teaching in future.  LH4.14, LH4.15 | | | |
|  | **KEY RESEARCH** **That Trainees will know that informs teaching and learning in Design and Technology** | | | | | | | |  |
|  | **National Curriculum for Design and Technology 2014**  **• www.data.org.uk**  **• The really useful primary design and technology book Elizabeth Flinn and Sarah Patel (2016)**  ** Mastering primary design and technology book by Gill Hope (2018)**  **Teaching Design and technology creatively, book by Claire Benson and Suzanne** | | | | | | | |  |

| **Phase 3** | | | | | | | | | | |
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| **University Based Learning** | | | | **Practical Based Learning** | | | | | | |
| **Learn That** | | **Learn How** | | **Learn That** | | | | **Learn How** | | |
| **Component Knowledge** | The role and work of the Design and technology Association for supporting professional development/CPD.  LT8.2, LH8.3, LH8.7 | To use the DATA assessment approach. | |  | | | To make judgements based over time (summative assessments) based on  whether pupils are progressing through the intended curriculum and using the DATA 6 point assessment approach.  LT6.6, LH6.3, LH6.12 | | Intent |
| Designers come from a range of diverse backgrounds and the impact their products have on society | How to adapt learning in Design and Technology LH5.1, LH5.5 | |  | | | Transfer/link learning from one subject to another.  LT3.7 | |
| Social justice can be positively and negatively impacted by manufacturing. | Go beyond the NC – cultural capital. | |  | | | Annotate schemes of work  LH3.5, LH5.9 | |
| Progress is knowing, remembering more and doing more.  LT6.6, LH6.3 | To sustainably design and manufacture a product to a specific brief. | |  | | |  | |
| **Assessment** | **Assessment** | | | **Assessment** | | | | | Impact |
| *What is being assessed?* | *How is it being assessed?* | | *What is being assessed?*  Subject knowledge  Pedagogy. | | *How is it being assessed?*  Lesson observations by school-based mentor. Students meet the subject knowledge requirements to proceed as set out in the Interim Placement Progress Report and End of Placement Progress report. | | |
| **Composite Knowledge** | **Composite knowledge/understanding/skills** | | | | | | | |
| *By the end of this phase trainees will* ***know:*** | | *By the end of this phase trainees will* ***understand:*** | | *By the end of this phase trainees will* ***be able to:*** | | | |
| How to plan, teach and assess a series of  lessons in Design and Technology.  LT3.3, LT3.5, LT4.1, LT6.1, LT6.3, LT6.4 | | That there are practical skills and knowledge and  disciplinary knowledge required for each strand of  the design and technology curriculum.  LH3.8. LH3.9 | | Confidently plan, teach and assess a  sequence of lessons in design and  technology (adapting published schemes of  work if necessary) demonstrating elements  of good practice indicated in EHU ‘lesson  observation prompts.  LT3.5, LH3.3, LH4.1, LT6.1, LT6.3, LT6.4 | | | |
| **Research** | **KEY RESEARCH****That Trainees will know that informs teaching and learning in Design and Technology** | | | | | | | | |
| **National Curriculum for Design and Technology 2014**  **• www.data.org.uk**  **• The really useful primary design and technology book Elizabeth Flinn and Sarah Patel (2016)**  **• Mastering primary design and technology book by Gill Hope (2018)**  **Teaching Design and technology creatively, book by Claire Benson and Suzanne Lawson.(2017)** | | | | | | | | |