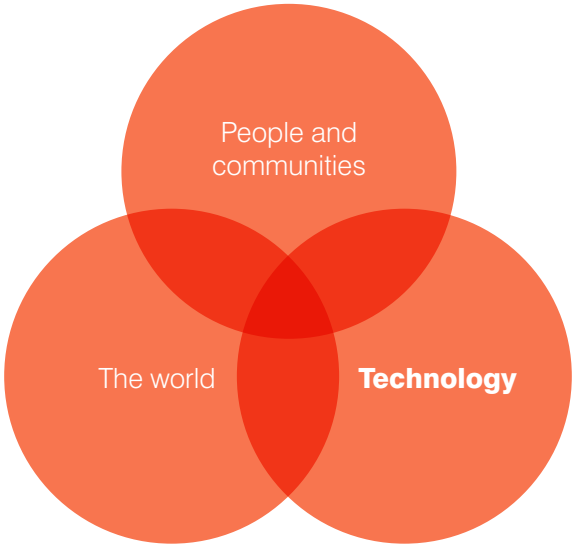
Understanding the World: Technology

Introduction

Understanding the World (UW) is one of the ***four specific areas*** of learning in the EYFS framework. It involves guiding children to make sense of their physical world and their community through opportunities to explore, observe and find out about people, places, technology, and the environment.

In the EYFS framework, ***Understanding the World*** is made up of three aspects:



Prime and specific areas of learning

- The ***three prime areas*** of the EYFS are Personal, Social and Emotional Development (PSED), Physical Development (PD) AND Communication and Language (CL).
- The ***four specific areas*** are Literacy (L), Mathematics (M), Understanding the World (UW) and Expressive Arts and Design (EAD).
- The ***three prime areas*** should be the focus for practitioners working with the youngest children as these form the basis for successful learning and progress in the ***four specific areas***.
- As children become older, the emphasis will shift towards a more equal focus on ***all areas of learning*** as children's confidence and abilities increase.

Helping young children to learn about technology

Understanding the World covers most aspects of the area of learning and development which was called 'Knowledge and Understanding of the World' in the original EYFS framework.

Technology covers the previous aspect of 'ICT'. It helps children recognise that a range of technology is used in places such as homes and schools.

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Practitioners should support children in experiencing a range of technologies – using cameras, photocopiers, CD players, tape recorders and programmable toys, in addition to computers.

Progress in UW: Technology

Under threes

'Practitioners working with the youngest children should focus on the prime areas, but also recognise that the foundations of all areas of learning are laid from birth.'
[Tickell Review of the EYFS, 2011]

Early Learning Goal for Technology

Children recognise that a range of technology is used in places such as homes and schools. They select and use technology for particular purposes.'
[Statement from Draft EYFS Framework, 2011]

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What quality looks like in practice

A children's centre offering full daycare for children aged from six months to five years focuses on how technology can be used to support the children's learning and development.

Under twos

The practitioners in the children's centre have a strong interest in researching how information and communication technology (ICT) and design technology can be used to support the fascinations and interests of the very youngest children in the centre. They are aware that many of the babies and toddlers show a deep interest in how things work and how they can be controlled.

The practitioners have provided a wide range of resources – including toys, books, puzzles and games – which involve mechanical movements and functions such as buttons, flaps, fastenings and toys or everyday objects which move or make a sound in different ways. They observe closely those children who are particularly interested in learning a range of technical skills, extending their knowledge by offering more opportunities for discovery. They also engage those children who do not demonstrate a natural interest in the technological aspects of the resources they provide, by modelling what they can do and enthusiastically sharing their experiences with the children.

Different types of music and varying light levels are features of the environment of the under twos room throughout the day, and the practitioners make the children aware of how they are using technology to bring about these changes, both by showing them what they are doing and explaining how things work.

Two- to-three-year-olds

From discussions with the children's family members and from their own experience, the practitioners are aware of how competent the two- and three-year-old children are when using technology. They do not underestimate many children's capabilities in using technology equipment at home – many can scroll through images on an iPhone, play games on an i-pad or computer, operate the CD or DVD player independently, or change channels on the television without help. The resources provided in the role play area for the children to use reflect their home interests and capabilities.

However, the practitioners are aware that many children will not have access to the same technological opportunities at home so, they introduce resources and equipment which will work for children with wide-ranging experiences and capabilities in their technological learning and development.

The children have independent access to CD players, a small range of electronic toys, light boxes, and an overhead projector – all of which foster their interests in how things work and what they do as well as supporting the other areas of learning and development in the EYFS. Other pieces of equipment are introduced at specific times; these include an electric keyboard, a karaoke machine, and a computer.
One of the most popular activities with the two- and three-year-olds is the dark den where they can use battery driven and wind-up torches, fibre optic torches, and rope lights to discover more about technology and the scientific world around them.

Four- to five-year-olds

By the time the children are four- and five-years-old the practitioners are very conscious that they will have technological 'experts' in their care; experts who know how to use a washing machine or how to retrieve information from a computer, who speak to their grandparents or relatives using Skype, or are very familiar with how bar code scanning operates in the supermarket. These are children who are already competent in ICT and design technology – knowing how science is applied to make things work, to design, build and control equipment used in daily life. The practitioners in the children's centre are also aware that they must be 'technology competent' themselves in order to support and extend the children's learning and development in this area of the EYFS.

In addition to having independent access to the resources which are provided for the younger children in the centre, the four- and five-year-olds use programmable toys to support the other areas of learning

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and development, developing their technological skills in contexts which encourage their mathematical, communication, and literacy skills development.

The practitioners use computers with the children to support their learning and development, but do not limit themselves to the traditional programmes intended for young children who are developing their literacy or number skills. They help the children to develop their broader skills of accessing information from the internet, communicating with others and extending the possibilities open to them in expressive arts and design.

The practitioners in the children's centre use their technological capabilities to document children's learning and development and to share this with parents. They use sequences of photographs as a form of observation, accompanied by commentary which explains the learning and development which is taking place. The practitioners have become skilled at photography themselves and are confident in encouraging the children to use sophisticated means of recording what they are doing, such as digital cameras, videos, and web cameras. Children are then able to show their parents and carers the things which are of great importance to them in the course of the day.

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How to help young children learn about technology

Use these reflective questions to think about how you might support young children to learn about technology.

Under twos

- Are all practitioners confident in their understanding of how information and communication technology (ICT) and design technology can be used to support the fascinations and interests of the very youngest children in our setting?
- Can we identify which babies and toddlers show a deep interest in how things work and how they can be controlled?
- How well do we support and extend these interests?
- How do we engage those children who do not show a natural interest in the technological aspects of the resources we provide?
- Do all staff share their technological knowledge with the children, modelling what they are able to do?
- Does the environment of our setting make good use of technology to change the mood during the day – by using music or lighting effects?
- Have we provided a wide range of resources – including toys, books, puzzles and games – which involve mechanical movements and functions such as buttons, flaps, fastenings and toys, or everyday objects which move or make a sound in different ways?
- How do we explain to all parents the positive effects of their children becoming familiar with everyday technology from a very young age?

Two- to three-year-olds

- Do all practitioners talk to the children's family members to discover how competent the two- and three-year-olds are at using technology?
- Are all practitioners competent themselves in using modern technology?
- If not, how can those members of staff who are technologically confident and competent help them to develop their skills?
- Have we introduced a wide range of technological equipment and resources to support children at different levels in their learning and development in this area?
- Do the children have independent access to CD players, a small range of electronic toys, a light box or overhead projector to foster their interest in how things work and what they do, as well as supporting the other areas of learning and development in the EYFS?
- Can we provide a dark corner or a dark den where the children can use battery driven and wind-up torches, fibre optic torches and rope lights to discover more about technology and the scientific world around them?
- Do we spend time talking to the children about how to use technological resources and equipment safely?
- Can we harness the interest of some parents in technology to support our provision of ICT and design technology in our setting?

Four- to five-year-olds

- Are practitioners comfortable with the idea that they will have technological 'experts' in their group of children?
- How do we take advantage of the advanced technological knowledge and understanding which some children have?
- Do all practitioners feel sufficiently 'technologically competent' to support and extend the older children's learning and development in this area of the EYFS?
- Have we introduced programmable toys to support the other areas of learning and development?
- Could we be more imaginative in the range of computer programmes which we use to extend the children's learning across the EYFS?
- How well do we help the children to develop their skills of accessing information from the internet, communicating with others, and extending the possibilities open to them in expressive arts and design?
- Do we use our own, and the children's, skills, to document their learning and development in order to share it with the nursery community and parents?
- Are we sufficiently confident to encourage the children to use sophisticated means of recording what they are doing – using digital cameras, videos and web cameras – to show their parents and carers the things which are of great importance to them in the course of the day?

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Ideas for parents

In this area of learning and development, children begin to recognise how a range of technology is used in places such as homes and schools. They also begin to use technology themselves for particularly processes. By technology we mean information and communication technology (ICT) and design technology.

Helping your child to learn about technology

There are lots of easy ways you can help your child to learn more about technology.

You could use the ideas below as starting points to help you do this.

Under twos

- Many babies and toddlers are very interested in how things work, at home as well as in their early years setting. Parents can help to develop their children's learning and development in this area by encouraging them to discover how technology works.
- Talk to your baby or toddler about what you are doing when you play CDs or DVDs.
- Choose toys which have buttons and switches, which move in different ways or make different sounds.
- Play with these toys enthusiastically alongside your child, making sure that the toys have working batteries and are switched on when your child is likely to want to use them.
- Share books with your baby or toddler which include flaps and different ways of making parts of the page move by lifting, pulling, pushing and turning.
- Using a dimmer switch in a child's bedroom provides a very obvious technological operated lighting effect. Tell your child how what you do changes the lighting effect.
- Hold your child up, or use a child seat in a trolley, so that s/he can see how the conveyor belt and till works when you visit the supermarket.

Two- to three-year-olds

- Make sure that you talk to your child about what they can and cannot touch in terms of electrical equipment, and why, to ensure health and safety in your home.
- If your child shows an interest in how domestic appliances work, such as your washing machine, take time to explain to him what the symbols mean and how the machine works.
- Your child may show a particular interest in how your car works and what the various switches and buttons are used for. Whilst ensuring safety as you drive, explain what you are doing.
- When you go out for a walk, point out technology in the local built environment, such as traffic lights, pedestrian crossings or lifts inside shops and other buildings.
- Give your child old items of technology, such as a mobile phone or remote control, to use in her role play.
- Time on your mobile phone how long it takes your child to do something, such as tidy their toys away!
- Begin to introduce your child to using computer technology themselves, for example speaking to grandparents or other family members or friends on Skype.

Four- to five-year-olds

- By the age of four or five many children are very competent in the use of ICT in the home. If your child has not experienced using technology earlier, now would be a good time to help them to develop their technological capability to support all areas of learning and development.
- During conversations with your child, use the correct technological vocabulary to encourage your child to talk confidently about technology.
- Have fun outside in the dark using a battery operated or wind-up torch.
- When you are buying presents, consider buying your child a CD player, a keyboard or a digital camera.
- Whenever possible, encourage your child to use computerised equipment to develop their computer skills, such as clicking and dragging or using a mouse or keyboard.
- Help your child to find information on the internet to answer their questions about the world and how it works.
- Encourage your child to use some aspects of technology under supervision – playing a DVD, making a phone call on a mobile phone or landline, or putting shopping through a self-service till in the supermarket.

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