

EAEE6006/C**Media and digital literacy portfolio**

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Element 1

The digital landscape is perhaps the fastest evolving element within the field of early years and childhood studies. There is recognition that rapid developments have meant that research has been unable to keep pace (Gillen et al, 2018; NSPCC, 2018; Brodie, 2016; Gray and Paliologou, 2019), and that policy, pedagogy and practice need to evolve to reflect such a change, which is impacting upon all areas of life and society (Theodotou, 2010; Daniels et al, 2019; Marsh et al, 2019; Jack and Higgins, 2019b). Changing habits have seen children and young people more likely to watch YouTube than television when seeking entertainment, but using digital technology increasingly for schoolwork and revision too (Ofcom, 2020).

Although digital services are rarely designed with children in mind (Kidron and Rudkin, 2017), it must be recognized that the world is becoming increasingly digital and that digital skills are becoming more important in the world of work nationally and internationally (Welsh Government, 2018). Welsh Government state that the internet is integral to children's lives, providing many positive opportunities to socialize and contact their friends and family, to learn and to connect with support (Welsh Government, No date). Therefore, as Brodie (2016) states, it is not a case of whether digital technology should be present in early years settings, but rather how their use should be implemented and integrated.

Williams (2016) notes that the current generation are the first to have actually grown up surrounded by the kind of technology we currently have access to, what he calls "digital natives", and that these children have learnt their skills through osmosis. In particular, he points to the way that touchscreen devices have changed human interactions with technology, in that they give immediate results, and can be operated before the development of literacy or motor skills which would be necessary to use a keyboard or mouse. They have become a highly desirable resource for settings, with those who already use them wanting more, possibly due to their multiple functions and the way children can use them to give their own perspective (Jack and Higgins, 2019b).

iPads and similar tablets are popular due to how simple they are to use, consisting of a simple icon-based menu system and the ability to back up or exit an application by pressing the single home button (Belshaw, 2012). Perhaps for these reasons, the

tablet continues to be the most popular device used by children in the UK for going online, as it has been since 2018, now used by 68% of 5–15-year-olds, particularly in Wales. There has also been an increase in the use of mobile phones for accessing online content, used by 55% of 5–15-year-olds, with smartphone ownership increasing with age, rising to over 90% of 15-year-olds (Ofcom, 2020). Smartphones now offer the same multiple functions that tablets offer.

Many children are growing up in environments that are media rich, surrounded by technology with which they actively engage (Aubrey and Dahl, 2013). With 87% of adults in the UK using the internet daily or almost every day (ONS, 2019), it is a regular part of children's lives. Digital habits are developed at a young age (Kidron and Rudkin, 2017), and according to Social Learning Theorists like Bandura, children will learn from what they see and experience in their own lives, through observation, retention, reproduction and motivation (Culatta, 2021). This links with Bronfenbrenner's Ecological Systems Theory, in that children will be surrounded by digital technology, as used by their closest influences in the Microsystem and their exposure through extended environments in the Exosystem, all the way through to the social conditions and culture they live within as part of the Macrosystem (Guy-Evans, 2020).

Over half of parents say that the benefits of digital technology outweigh the risks, though this viewpoint has declined in recent years (Ofcom, 2020). Despite an increase in advice given, children are still viewing inappropriate content and seeing hateful content is increasing (Ofcom, 2020). This could be due to too little use of parental controls and a lack of parental understanding (NSPCC, 2018). Those who do use parental controls find them effective (Ofcom, 2020), but there is a risk that devices such as tablets which are easy for children to handle are become digital babysitters (Kidron and Rudkin, 2017). Excessive and unsupervised screen use is considered detrimental in terms of developmental delay, physical health including BMI and sleep deprivation and socially, with higher use linked to fewer social interactions and more conflict within families (Theodotou, 2010; Reid-Chassiokas, 2016).

Most use of digital technology in the youngest age bracket of 3-5 years is adult guided and a shared experience with family members (Kidron and Rudkin, 2017). The importance of adult interaction whilst children are navigating digital learning is well

documented (Reid-Chassiokas, 2016; Brodie, 2016). This is connected to the Social Constructivist theory of Vygotsky, where learning occurs through social interactions, with parents, siblings, peers or other adults and to the ideas of scaffolding and extending learning through working in the zone of proximal development with a more knowledgeable other (Theodotou, 2010; Williams, 2016; Gray and Paliologou, 2019).

Questions remain about the ability of adults to provide adequate support and guidance for children with their digital literacy attainment. A number of reasons have been put forward for this, not limited to the fact that adults are unable to cope with the sheer rate of change in this area (BBC, 2019). Practitioners hold varying views on the benefits of digital technologies in early years settings (Open Access Government, 2018a), with many lacking in confidence in their own ability to effectively incorporate them in practice, and to introduce digital literacy alongside the many other demands upon the limited time children are in the setting (Jack and Higgins, 2019b). Whilst their views on using digital technology in settings may be largely positive, some practitioners state their need for training to improve practice in digital literacy (Aubrey and Dahl, 2013). Research by Daniels (2019) also found Teachers either ill-equipped or reluctant to embed digital learning into their teaching.

There is a perception that as digital methods do not deal with the real-world or concrete learning, they go against the current UK pedagogy (Daniels, 2019), which is influenced by Froebelian principles of play. However, Jack and Higgins (2019a) and Theodotou (2010) identified good practice in settings, with appropriate and creative use of digital technologies. Projects such as Makerspaces allow children to blend opportunities for open-ended exploratory play with digital learning (Marsh et al, 2019). There must be recognition that traditional and digital play can coexist, where the necessary conditions are provided.

The change in focus which is central to the concept of Makerspaces, is that the activities are child-centred, but from the perspective of individuals working collaboratively, participating in sociocultural practices. This approach recognizes the funds of knowledge that children can bring with them, including from the home environment, to share and increase learning, which points to the child having agency and being a capable learner. This view of the child as knowledgeable and capable are also key principles of the Montessori method of educating children (Association

Montessori Internationale, 2021). Use of portable digital devices can be seen to support this, as they can be taken to wherever the learning is taking place, and can be used by the children or adults independently and as part of playful or play-based learning.

Gillen et al (2018) also called for the recognition of children as capable learners, and stated that children should be allowed to make their own decisions about engagement with digital technology. Their policy brief identifies a need to blend digital and real-life experiences for children to gain maximum benefit. This blending of play-led and IT learning can be seen as critical if digital literacy is to be seen as an intrinsic part of a cross-curricula framework, rather than something which sits in opposition to the pre-existing literacy targets within settings (Daniels, 2019).

The need to embed digital literacy within the early years pedagogy is highlighted in much of the literature (Jack and Higgins, 2019a; Daniels, 2019; NSPCC, 2018; Welsh Government, 2015; Welsh Government, 2018). It is also closely linked to the idea of 'literacies' rather than 'literacy', in that it relates to a number of broad proficiencies, as opposed to a linear progression of ability (Belshaw, 2012). There is evidence that print literacy and digital literacy are mutually enhancing (Clark, 2010), and can therefore be developed alongside each other. Donaldson's Successful Futures Report (2015) recommended the creation of the Digital Competency Framework as part of a Cross-curriculum Responsibility to develop 3 areas within the curriculum; literacy, numeracy and digital competence. This is to follow children throughout their educational life, starting at the age of 3, however, we know that by the age of 3 some 20% of children will already have their own tablet (Ofcom, 2020). Therefore, they will already have absorbed and created some knowledge and experience of these devices.

The multimodal practices in which children can engage whilst using digital technologies should be acknowledged (Daniels, 2019). With freedom to explore, children can learn and explore multimodally using iPads, and care must be taken that they do not become vehicles to deliver old and ineffective methods of learning, such as ways of providing worksheets (Lynch and Redpath, 2012). This again links to the idea that digital literacy needs to be part of an effective pedagogy that is reflected in effective and creative practice.

The literature repeatedly calls for better links between children's homes and the settings they attend (Gillen, 2018; Aubrey and Dahl, 2013). There is a perception that parents have grown up in a digital age and may be fully aware of the risks and benefits of using digital technology, but that may not be factual, and in a changing landscape, practitioners have a duty to be aware and to offer support (Gray and Palialogou, 2019). Practitioners have a responsibility to recognize the value of technology, but to encourage safe use and be a good role model (GOV.UK, 2019).

The link between home and a setting can be strengthened by sharing experiences through using digital technology, and it can be particularly helpful if there is a language barrier (Brodie, 2016). However, there is a fear amongst some practitioners of children damaging expensive equipment like iPads (Gray and Palialogou, 2019) exacerbated by the financial constraints of settings, who find purchasing and maintaining devices cost prohibitive (Aubrey and Dahl, 2013). Many families are also suffering from what has become known as the digital divide (Brodie, 2016), which has gone under the spotlight in recent months due to the home learning that children have been expected to undertake during the global pandemic. Some families struggle to cover the cost of the devices themselves or the cost of broadband, others may be at a geographical disadvantage in accessing the internet (BBC, 2021). Therefore, it is not a level playing field for acquiring digital literacy skills. Welsh Government (No date) aims to tackle digital inequality through education, in recognition of its important future role in all areas of life.

Welsh Government policies are underpinned by the United Nations Convention on the Rights of the Child (UNCRC) in line with Article 3, which puts responsibility on adults to think about how their decisions impact upon children, and a number of the articles relate to the area of digital literacy. In particular Article 13 – right to share what they learn freely with others in any way they choose, provided that it does not harm others and Article 17 – right to get information that is not harmful in a language that they understand (UNICEF, No date). This is reflected in the Welsh Government aim to provide all resources for children bilingually.

To summarise, the pace that the digital landscape is evolving outpaces the research and development of pedagogy and policy. There is recognition by parents, practitioners and policy makers of the benefits of embracing digital technologies for

leisure and wellbeing, and for educational purposes to be able to compete in the future careers market. The importance of supporting practitioners with training to enable them to embed digital literacy in their practice in effective and creative ways is evident. This need for support extends to parents, whose knowledge is also outpaced by technological advances, and who need support to put in place filters and protective measures for their children. This also needs to be complemented with equipment such as iPads and tablet computers that are up to date, portable and able to be used in a range of learning activities, as the digital divide affects settings and whole communities as well as individuals. There would be benefits to having a bank of digital devices that could be shared between settings and the home environment, to increase links and adult guided use of digital technologies.

A Parent's Guide to Safe & Happy Digital Lives in the Early Years

A digital generation

Technology is everywhere, and with ICT skills being viewed as essential for the 21st century, exclusion is simply not an option. Indeed, there are numerous benefits and opportunities offered to us all by being confident in our use of ICT (Kidron and Rudkin, 2017).

With 24% of 3–4-year-olds having their own tablet and 51% watching YouTube for over 8 hours a week, we can see that for this generation, who have never known a world without the internet, the online world is a central part of their lives (Ofcom, 2019).

Just as parents aim to keep their children safe in the real world, there is also a duty to keep them safe in the online world (Pacey, 2021). This leaflet is designed to help you identify the benefits and also any potential risks of being online, and to put things in place to ensure safe and happy digital lives for children from their early years.



Image: Bing Images (2021)

So, what does Welsh Government think?

Welsh Government have stated their commitment to ensuring that the children of Wales become digitally competent. They introduced the Digital Competence Framework for children from the age of 3 in order that they build a solid foundation of skills from the earliest opportunity. With the introduction of a new curriculum from 2022, the aim is that all settings will be delivering digital competence through all areas of the curriculum (Welsh Government, 2018).

During 2020 there has been an increased emphasis on introducing digital resilience through education provision, so that children themselves can learn how to stay safe whilst online (Welsh Government, No date).

Why it is important to make an early start

Habits started at an early age continue as children grow and develop. Healthy online habits should be encouraged in the same way as healthy eating habits and healthy sleeping habits. It is easier to set boundaries at these early stages, rather than trying to introduce them later.

The following websites have guidance and information specifically related to younger children, and further guidance to use as they grow and learn:

Internetmatters.org: <https://www.internetmatters.org/>

NSPCC: <https://www.nspcc.org.uk/keeping-children-safe/online-safety/>

Spend time online with your child and remember they will learn their behaviours from you, so set yourself some time limits and healthy online habits too.

I'm scared my child might view something inappropriate

If you are concerned that your child may come across content that is not suitable for them, such as sexual or violent imagery, there are a number of things you can do to try and prevent it happening.

- Set up your home page to a website that is child-friendly
- Use a parental filter, such as turning on 'Safe Search' for Google
- Check out the apps that you download – are they suitable?
- When using games, check the PEGI rating which is based on the age suitability of the game rather than how difficult it is
- If your children use YouTube, set up 'Safety Mode'
- Remember nothing is 100% secure, so encourage your child to share their online experiences and to know that they should tell you if they see something that makes them uncomfortable



Image: Bing Images (2021)

I'm scared of strangers contacting my child for wrongdoing

If your child is playing games online, there is a chance that the game has a chat facility. Many of these chats are not moderated, and there is a possibility that others are using it for suspect purposes or are not who they say they are.

- Be aware of what games/apps your child is using and ensure they are appropriate
- Disable the chat facility if you are happy for your child to play on
- Treat strangers online with the same degree of caution as you would in the real world
- Try to play with and supervise your child
- Report anything suspicious

Consent

Adults often talk to children about consent in the context of physical touching or sharing and borrowing toys. Why not extend the conversation to talk about consent in terms of letting others decide if they are happy to have their picture or film footage taken, and then whether they are happy for that to be shared online with others?

It is worth considering how we would feel as adults if our image was used without consent, and whether adults should lead by example and seek consent from our own children before posting their image on social media.



Image: Bing Images (2021)

I'm scared that time spent on screens will affect my child's sleep

There is some debate as to whether increased screen time impacts upon the quality and quantity of sleep of young children, also on whether it contributes to being overweight.

However, to ensure that a child develops well in all areas and as a whole person (holistically) it is important to have a balanced approach and give time for practical activities too.

- Model positive behaviour – spend time away from your devices
- Have technology free areas at home
- Don't take devices to bed
- Set fair and sensible boundaries
- Consider a timer as part of the device's parental controls
- Have plenty of time away from screens and in natural daylight to promote good eye health

For more information on screens and eye health visit the Association of Optometrists website: <https://www.aop.org.uk/advice-and-support/for-patients/childrens-eye-health/screen-time-for-kids-facts-for-parents>

Protecting your money and various forms of identification

- Always use a password and make sure you keep it to yourself
- Remember to childproof your settings
- Set up notifications – if anyone tries to make a purchase, you will be told

Sources of support

If you don't feel confident navigating the digital world yourself, it can be daunting trying to educate your child. Support is out there

- Speak to your child's nursery or school and ask how they approach digital skills. Do they have SchoolBeat sessions from the local police force?
- Ask trusted friends to help you
- Enroll on a course to improve your own skills – contact your local council or college for information
- Don't be afraid to learn together – spend time learning with your child
- Take a look at this guide: <http://thelamp.org/portfolio/guide-to-developing-healthy-digital->

Don't forget the positives!

It is important to recognise the number of positive aspects that living in a digital world offers too.

- Increased connectivity with family and friends
- A world of knowledge at the click of a button for finding out about whatever you are interested in
- Resources for learning
- Resources for hobbies
- Entertainment

Digital skills are becoming increasingly important in the world of work, and no child should be left behind.

Element 3

Activity Plan for Digital Literacy Skills Following the theme: Gwanwyn/ Spring time		
Number of children: 12	Age: 3-4 years	Number of adults: 3
Location: Local nature area – large pond, path around perimeter, trees, shrubs, wildflower areas, logs, tree stumps and bug hotels. Then back at the setting.	Preparation time: 30 mins To collect resources, complete risk/ benefit analysis and speak to the children before leaving.	Activity time: 1hour approx. for first part. The second part of the activity, printing out pictures, watching any recordings and creating an interactive display together, will continue over many sessions and duration will be defined by the children.
Resources: iPads &/or cameras Recordable Talking Clipboards (TTS, No date) &/or other recording device Paper Pencils First Aid Kit Appropriate clothing and footwear for weather conditions		
Details of activity: The Cylch are going on a walk around the small local nature reserve. The children have been told to use their eyes, ears, noses and hands to identify things that are around us in the spring time. They will be able to record their findings in whichever way they choose, through filming, taking photographs, recording sounds (e.g., birdsong) or themselves		

describing what they see, through drawing pictures or writing/ mark making onto paper or on the iPads.

The activity is designed to allow the children to explore and follow their own interests within the theme. For example, some children may look under logs or in the bug hotel for mini beasts, other children may be interested in different flowers, some may notice the sounds of birds or lambs.

The aim is for the children to be able to experience the unique features of spring time in their local area, in the natural habitat, with the ability to revisit and consolidate learning back at the setting through their recordings. This links with Piaget's theory, where consolidation is an important component of learning. They will be encouraged to use multiple senses, as this will target the learning strength or preference of every child in the group.

This method also minimizes disruption to the natural ecosystem, as nothing is being removed or damaged. This links with ethical global citizenship which forms a part of the New Curriculum for Wales (Welsh Government, 2015).

The exploration and recording are the first part of the activity. Back at the setting, the children's work will need to be saved and stored and/or printed out as they choose. They will need to identify which documents are to be used in which way, such as printing off still photographs for a display, watching video clips on the computer and listening to recordings.

The activity may lead on to some further online research, particularly if needed to identify types of birds, flowers or trees. Children may choose to find out more about certain things, e.g., what do sparrows eat? Where do worms live? They can be supported to use the internet to find such things out.

Role of adult

- Providing the rich environment
- Gathering resources, modelling their use and operative instruction if needed
- Questioning and pointing things out that may be of interest
- Introducing unfamiliar technologies
- Scaffolding learning

Links to digital literacy/competence outcomes:

- **Citizenship** – The activity could highlight the need for consent when photographing/ recording others. Children will be shown the correct and safe way to use the digital devices through demonstrating, modelling and instruction. Children will be helped to add their names to what they produced.
- **Interacting and Collaborating** – Children will be working in small groups and sharing the devices, they will be shown how to share their work with others.
- **Producing** – Practitioners will use and respond to questions about the task, helping the children select the right equipment for the purpose.
- **Data and Computational Thinking** – Early data sorting through identifying types of data – e.g., saving all of the photographs in an album or putting pictures of trees on a separate page to those of insects.

Differentiation

Activity and technologies used can be experienced by different senses, some focus on sound, others on vision, therefore suitable for different learning styles and abilities. High adult/ child ratios recognize that children will need different levels of support and instruction. A 1:1 may further support a child with additional learning needs, and any other barriers to participation will be identified and removed so far as possible.

Element 4

The activity outlined in element 3 aims to promote digital literacy and competence through an explorative and largely child-led experience in an environment selected for the natural resources it offers. The type of activity and location were chosen as the benefits of outdoor learning are well documented (Williams-Sieghfredsen, 2012, Bilton, 2010), with Welsh Government recognizing that outdoor learning can be cross-curricula (Welsh Government, 2015). The increased learning opportunities of child led experiences are recognised in the Early Years Foundation Phase Framework (Welsh Government, 2015) and there is an understanding amongst practitioners of the effectiveness of a pedagogy where experiential learning is recognised and developed.

Daniels (2019) notes that there is a challenge in aligning the need for developing digital competence and the early years pedagogy of open-ended, child-led learning through play. Jack and Higgins (2019b) found that a number of studies echoed this view with types of digital learning being limited to operational or free-time, but their own study found creative use of educational technologies in early years settings. This activity marries elements of child-led learning with some operational instruction. The children get to decide what they record, how they record, and the apparatus needed to record it, but will need adult or peer guidance if they are not familiar with it.

Following Graham Donaldson's report Successful Futures (2015), Welsh Government developed a Digital Competence Framework (2008) to embed a variety of digital literacy skills in a cross-curricula format in common with numeracy and literacy. The Framework consists of 4 strands, the first of which is citizenship. At its early stages for pre-school children, this can include elements of identity and image, which this activity addresses. Practitioners will model habits by asking for consent to photograph and record people and encourage the children to do the same. When they print out photographs at the setting, they will be encouraged to label them, which links to early learning about digital rights and ownership.

The children will be working with each other and with adults, which relates to the strand of interacting and collaborating. This also offer opportunities for children to learn from a 'more knowledgeable other' which Vgotsky considered to be critical as they could offer modelled behaviour and verbal instruction (McLeod, 2020). Technology may be used more effectively when it is used with others, be they peers or adults (Jack and

Higgins, 2019), and the technology itself could also fulfil this role when doing research or wanting to find out how to do something.

There is also an aim to share their work in different formats with others, through showing videos, producing photographs to display or playing their sound recordings and this could be further expanded in the plan. The plan could be extended to explore the chance of sharing their work more widely, with parents and the public, possibly through social media. This would lead to further exploration of themes of consent and appropriate sharing with children and parents. It would also lead to increased links between the setting and home, which Gillen et al (2018) advises would be beneficial for digital learning.

There could also be an opportunity to teach children more about saving and storing their work later, which is not fully explained in the plan. This could be seen as just operational instruction, but will increase capabilities in children in a wider range of devices than they may be able to access at home.

There should be recognition of the digital divide, which has become more obvious during the Covid pandemic (BBC, 2021), but which does not only apply to households and individuals. Many settings, with their varying funding structures, do not have access to the types of resources which are mentioned in the plan, and there is great variation between settings. iPads and recording devices are costly to purchase and maintain and practitioners may be wary of allowing children to use them in the outdoor environment for fear of costs incurred due to breakages (Jack and Higgins, 2019b).

The activity is rich in opportunities to related to the producing strand of the framework, as children will need to decide which equipment suits their aim and will be creating work in different formats. However, this element will be highly dependent on the skills level and confidence of the practitioners. Research has found that there is great variation in confidence and competence of practitioners (Jack and Higgins, 2019b; Daniels, 2019), and to address this, Welsh Government have delivered Hwb, a national platform of resources across the education system, which encompasses multiple strands of work included within the Welsh Digital Competency Framework.

The activity plan notes aspects of data and computational thinking that it relates to – there are many opportunities for sorting data, either by type or by what it represents and how it will be shared. There is also potential to explore sequencing during the

activity, though the plan does not explore this in detail. For example, children will be learning to gather the footage, then save, then label and then decide how to share.

The Digital Literacy Framework (Welsh Government, 2008) was updated again in 2018 and is the first part of the New Curriculum for Wales (Welsh Government, 2015) to be introduced, which perhaps reflects the urgency of policy makers in embedding good digital skills. The curriculum as a whole is intended to develop a broad skills range with numeracy, literacy and digital literacy as underpinning elements of holistic development. This activity is reflective of this, as it places digital literacy and skills within an activity which has been part of practice in early years settings for many years, and which links to a plethora of other areas of development and learning.

The activity plan recognizes that activities may need to be adapted to suit different needs. Although iPads are relatively easy to use (Belshaw, 2012) and some of the recording devices designed for children with simple one-button operation, it is important to recognize that both children and practitioners will arrive with different levels of competence and knowledge. For this purpose, the plan states that the ratios are low, to enable work in small groups and more operational instruction if required.

The activity benefits from being multi-sensory, and should therefore be effective for different learning dispositions. A study carried out in Scotland by Stephen et al in 2005 (cited in Clark, 2010), points to a complex relationship between family circumstances and ICT experiences. There are more than just economic variations, they are dependent on family practices, parental attitudes and children's own preferences. The plan is effective from this perspective, as the children are allowed to follow their own interests within it, and to record their findings in a variety of ways. Paper and pencils are provided to allow children to draw or write if they choose not to engage with the technology at that time. They will still be exposed to it, both at that time and when it becomes an interactive display, and may choose to engage with it as they want.

In summary, this activity benefits from being a child-led, outdoor activity that promotes holistic development and embeds digital technology in a cross-curricula way. The activity covers a range of skills under the strands of the Welsh Government Digital Competency Framework. However, there is an opportunity for these to be expanded on and for the activity to encompass a greater range of competencies, which are not

explored in depth in the plan. The plan will be reliant on positive practitioner views and a certain level of competency in order that it is delivered effectively.

This activity encourages collaborative working between groups of children and between children and practitioners. It also highlights opportunities for increasing links with parents/families and the community, which has been identified as an area which needs development (Aubrey and Dahl, 2013; Brodie, 2016; Gillen et al, 2018). These links and the activity itself would be dependent on the resources being available to the setting, which has also been identified as a problem (Jack and Higgins, 2019b, BBC, 2021), and has been highlighted recently due to the global pandemic.

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