

Critically analyse and evaluate how experiences of digital literacies empower young children in early years' settings.

The effectiveness of digital devices and its influences on children in the early years

According to Ofcom (2018) media is the ability to 'use, understand and create media and communications in a variety on contexts.' Within this assignment, the use of iPad and interactive white boards will be analysed and evaluated as a means of promoting young children's holistic development. As media was developed for adults use, it is argued that it is not always useful as a learning space for children (Kidron and Rudkin, 2015). However, Aubrey and Dahl (2014) emphasises that media, within today's society has a substantial influence on young children. Donaldson (2015) agrees with Aubrey and Dahl and advocates the importance of children being digital competent within the 21st century, as the future is technology reliant, and a lack of understanding can mean that young children will be at a disadvantage. This is in line with the Donaldson report and the Welsh Government (2016) initiative that it is essential that children have extensive knowledge and a good level of confidence and attitudes towards the use of technology and systems for them to be successful and overcome the risks that surround media. Chassiakosy et al (2016) and Davies (2010) explains that digital technology allows children access to instant entertainment, information, knowledge and social contact. Nonetheless, boundaries have been blurred over time as parents have a cycle of anxiety when it comes to educating online safety. (House, cited in Flewitt, Messer and Kucirkova, 2014)

Since the invention of the iPad in 2010, it has increasingly heightened the discussion whether we should allow children access to digital devices. According to a survey governed by the Communications Act 2003, tablets are increasingly being used as a means of entertainments and as a result reduced the number of tv time children are having. Despite iPads having been branded as expensive, their touch screen element does provide opportunities for children to become interactive and places a focus on the pedagogical play-based approach as the apps encourage children to communicate, and develop their literacy skills by reading the text on the device as well as providing fun learning opportunities as seen on the multiplicity of apps such as Jit2Blast on HWB. (British Education Research Association, 2018) This app allows children safe access to several activities that aid their mathematical development by completing counting and colour sorting activities, writing and reading activities that consolidate literacy development and creativity by expressing themselves through

paint art. House R (2012) and Doconnett and Perry (2010:715) states that digital technology supports other cross-curriculum skills, this coincides with Piaget theory and Estyn (2019) that children learn best through first hand play and exploration opportunities and an iPad is effective way of children re-visiting schemas which allows children to deeper their understanding progress at their own rate. Stead (2006) agrees by adding that play based learning means that the child gains a better understanding of what is being taught to them when they are in control. The apps accessible on iPads and interactive boards also provide positive reinforcement as it assesses the children level of development and capability and thus tailoring the educational app to build up to the next step appropriately. (Chassiakosy et al, 2016).

Similarly, the interactive white boards, commonly seen within classrooms, provide visual learning opportunity for interaction as children use it by pressing buttons and using a pen or their fingers to drag across the screen to complete tasks. (Solvie, 2004). This element of both the iPad and interactive board are very beneficial for those children in the early years that have not yet grasped the pincer grip as it helps them formulate letters without the need for holding a pen and therefore helps those develop their fine motor skills. (Flewitt RS, Kucirkova N and Messer D ,2014). The British Education Research Association (2018) and Moss G, Jewitt C, Levacic R, et al. (2007) also believes that writing on an iPad and interactive board allows children to have more creative choices when practicing their literacy skills. This coincides with Bandura theory that interaction with parents and peer whilst using digital devices models positive learning as they can extend their language and communication development which links with Vygotsky (1978) theory that digital literacy is more effective when parents scaffold language by repeating vocabulary and talking through experiences in order to help develop a high level of understanding. (Burke, A. and Marsh, J., 2013). The use of word and note pad accessible on digital devices act in parallel to books and paper and are more environmentally friendly and sustainable. (Kozma, R.,1991; Kucirkova, N., 2014). Therefore, in line with Department for Children, Education, Lifelong Learning and Skills (2008), it is evident that digital devices allow rich opportunities that encourage Visual, audio, print, digital and interactive collaboration; all of which supports the foundation phase and promote the development of literacy. (Loerts & Heydon, 2017)

Unlike the interactive boards, the iPad is smaller, lighter and can be moved easily, it is compact with no mouse or keyboard, can store a large amount of data and apps that are child friendly and are rather simple to use. (Kucirkova, 2014). Fischhoff, Crowell, and Kipke (1999) and Dunn and Sweeny (2018) believe that this portability of the iPad is extremely beneficial as the children can extend their learning anywhere at any time and therefore make the opportunities gathered from a digital device child led. Smith H, Higgins S, Wall K, et al. (2005) adds that interactive white boards are often linked with whole classroom learning and therefore no need for its portability, however in contrast to the iPad, the interactive white board has been criticised for its lack of child-led opportunities and state that activities are usually pre-planned with a focused learning objective. (Twiner et al, 2010). However, Plowman L, Stephen C and McPake J (2010) state the level of outcomes met within activities does heavily depend on the child's level of competence, although large group activities does allow for Vygotsky theory to take place by children copying and learning off the knowledgeable other and therefore places a greater emphasis on the importance of interactive whiteboard within classrooms as a collaborative learning resource.

With the iPad and interactive boards, they both run of Wi-Fi and therefore allows them access to the internet and YouTube. Skinner is a strong believer that children learn from what they see; research shows that children can understand and use sign language after 3 weeks of watching YouTube videos. The benefits of children watching videos from a young age, despite them not being able to speak themselves are extremely beneficial as new vocabulary is learnt and exercise their mouths by mimicking the words heard. (US National Library of Medicine and National Institutes, 2003; The National Literacy and Numeracy Framework, 2013). In deprived areas Donohue, C. (2014) states many children have never visited the seaside, listened to the waves as they crash against rocks, CD's, DVD's and the internet can all supply these experiences; allowing children to develop and strengthen their knowledge and understanding of the world.

In contrast, this is only effective if the videos the children are exposed to are positive ones. Otherwise the cultivation theory will take place, Which Gerbin (1988) and Johnson et al (2002) believes that media is simply shows us what we want to see and heavily influences the choices children make though the use of attractive fonts, pictures and videos. Lamb (2002) highlights that children are out of control of what

they see because media tries to influence how the world and headline titles are perceived. Johnson also states that children that see violence online are more likely to show signs of aggression. In light of this, it is important to remember that Ofcom (2017) have more regulations on tv programmes surrounding advertising and links to what are appropriate, than they do with online content and therefore places a greater emphasis on educating children to use the devices safely and encourage parental controls for children in the early years accessing content on the internet. (Kaye, 2016).

The American Academy of Pediatrics (AAP) (Cited in Chassiakos et al 2016:8) believe that digital devices being used by children 2 years can lead to video deficit as they have a lack of symbolic thinking and memory flexibility to be able to acknowledge the difference between 2 dimensional and 3 dimensional shapes. Within the early years, as advocated by the Early Years Foundation Phase (EYFP) (2008) they believe that children ages 2 years are still developing their cognitive, language, sensorimotor and emotional skills which all require first hand social interaction with a trusted caregiver in order to develop and therefore criticise that digital devices cannot offer this level of response that are shown through facial expressions.

The iPad and interactive boards allow access to games, both general and educational. Participating in video games can create virtual worlds which can lead to a highly personalised experience that increases a child's imagination. (Chassiakos et al, 2016; Danby, 2018). The gaming aspect of digital media also provides children with a sense of accomplishment after completing a challenging level and therefore increases children self-esteem by doing so. However, as stated by Lewis (2018) it is important to remember that games too can sometimes be addictive and lead to a 'gaming disorder'.

Within the Ofcom report (2015) highlighted that 69 percent of 3 and 4 year olds used iPads. The survey also demonstrated that 1 in 5 of which stated that they had used parental controls, which totals to only 36% of parents minimising the damaging risks of digital information technology (ICT) by using restrictions. The digital childhood report points out that parents have little knowledge around online safety.

While analysing digital devices, research from Sigman (2012) suggests that children should take a break from screen devices every two hours and get active for health benefit purposes. However, Dame Sally (2019) also states that there is no evidence

proving a clear link between screen-based activities and mental health implications. The BBC (2019) recommend that parents should model positive behaviour when it comes to digital devices by monitoring their use and their child's use of technology-based devices, ensure they educate their children on online safety and cyber bullying, and that screens are kept away from the dining table and the bedrooms. Heithner (2014) and Coccozza, P. (2014) also agrees and believes that it is important for parents and practitioners to demonstrate positive attitudes towards technology. This will allow children to develop a positive disposition towards technology and a motivation to use it both now and in the future by understanding that technology has a purpose.

It is important to note, as stated by Pennington (2015) that there is a substantial connection between social media and the fact that almost half a million teenagers are suffering from some sort of eating disorder, which could become a life-threatening illness. Pennington continues by reporting that the images children and young people are exposed to through magazines, television and movies are 'unrealistic', for young girls. Often the use social media is used as a form of escaping reality and transform into this perfect, unrealistic figure. Dohrit and Tiggerman (2006) and Tatengelo and Riccardelli (2017) also believe that media can have a negative impact on body images.

Another positive aspect of technological devices is that it has been proven to support those with additional learning needs. ASDF (2017) agree by saying that autistic children find tapping a screen is easier than typing and the children can take the iPad with them wherever they go which keeps them calm and focused. ASDF (2017) also state that children with speech and language delays, often seen with children with autism, use the iPad as a means of communication which reduces their frustration. Time lines and pictures taken on digital devices such as an iPad also help children to follow daily routine which is something autistic children find very beneficial; the iPad will allow them to take photographs and create stories. However, some may also say that digital technology lacks in specified apps supporting ALN. (Chmiliar, 2017).

To conclude, it is clear to see that there are factors that hinder the progression of digital media, especially within early years practice, however training on online safety can easily overcome these negative perceptions. (NSPCC, 2019). Despite this, the benefits of digital media depend heavily on children's age and level of competence, which relates to the opportunities and experiences given to them to explore digital

devices. Therefore, it is important that parents do not minimise their child's time online and playing on technological screens. As stated by Ofcom (2018) it is more beneficial for children and within every parent's best interest to increase children's awareness on online safety by setting boundaries on what is appropriate, utilising parental controls within the settings of the devices as a means of limiting unsuitable content. Touch screens also allow scope for interaction, Chaissiakos et al (2016) encourage that parents engaging with children while they use digital devices can promote fun and positive experiences that also expands on learning. Both the devices mentioned have similarities with regards to their means of sharing and communication. However, the iPads, when monitored correctly are arguably more favourable for children in the early years as its portability increases the learning opportunities and thus encourages collaboration, exploration and increases the children's digital competence and sets them up for a brighter future. (Donaldson, 2015).

Evaluation of an activity that supports children's literacy in the early years

Activity: The activity will be aimed at children aged 5/6 with 2 members of staff whereby they will be split into a group of 6 with mixed abilities in order for the children to work together and learn off one another's competence to order frozen frames of the story 'Bedd Gelert' which has been the focus over the last couple of weeks; and place them in sequence of order of events on the interactive board. Following this the children will then get the opportunity to record a puppet show rein-acting what they remember from the story and focusing on sentence structures and vocabulary learnt in previous lessons. Each child will get the opportunity to choose which character they would like to be, as the task is child led, they will also get the opportunity to choose what scenes of the story and where they would like to record their show having free-flow access to the outdoor environment and dictionaries if need be. Following this activity, as the next step, the children will have a choice to further scaffold their learning and log into their Hwb and play on Jit2Blast having the free option to choose that game the play; be it on the beebots and help Gelert find his way home or create a picture of their favourite scene within the story or a typed descriptive piece of work.

This activity is in line with the Welsh Government (2016) The Digital Competence Framework (DCF) is a mapping tool that provides a clear and consistent vision for digital literacy that allows practitioners and teachers to evaluate the children's technological abilities. The DCF (2016) and Donaldson (2015) describes digital competence as

'the set of skills, knowledge and attitudes that enable the confident, creative and critical use of technologies and systems. It is essential for learners if they are to be informed, capable and have the potential to be successful today'.

The Early Years Foundation Phase (DCSF, 2008) advocate digital technology as a cross-curriculum subject and should not be taught as a single topic. The DCF is subdivided into 4 strands, upon all of which will be linked to the activity by analysing how it supports digital literacy within the early years. The aim of the DCF is to increase standards of literacy and numeracy and help children to become more digitally and bilingually competent, to evolve into enterprising, creative and critical thinkers which also links with Office for Standards in Education (OFSTED) (2008).

Prior to the activity beginning, a staff member will demonstrate how to use the iPad and interactive white board correctly and setting rules and guidelines surrounding online safety and allows the children to recognise that actions have consequences. The importance of promoting Information Communication technology (ICT) within early years provisions is crucial as it allows children access to the internet in a safe and responsible way as they are monitored, and all inappropriate content is 'blocked'. (NSPCC, 2018; Digital Childhood Report, 2015).

Within this activity the children will learn the 'Stori Gelert' which provides them with a sense of 'identity' as they learn about the famous Welsh tale. As the children get the opportunity to re-create their own version of the story by recording and narrating with the use of puppets, the children will also gain a deeper understanding of the citizenship strand of the DCF as they ask their peers for their permission prior to recording and respecting digital rights. Which in hand upholds, Article 16 and 12 of the United Nations Conventions of the Rights of the child (UNCRC) (1998) advocates that all children have the right to privacy and place a great emphasis on the voice of the child. By allowing children access to the internet it is allowing them access to a wide range of materials which also upholds Article 13 that children have the right to information. As the children are recording their own work, they will also establish a sense of ownership as they listen back and learn to share their work correctly with their peers in a manner that demonstrates positive online behaviour. (Simpson and Toyn, 2011).

The activity also encouraged children to save their work with an appropriate name and title which links with the citizenship strand of the DCF and allows children to understanding the importance of saving the document so that it can be revisited and supports the storing and sharing element.

From reflecting on the outcomes of the foundation phase, the activity promotes the producing strand of the DCF by increase the children's creativity skills as they think imaginatively and demonstrate their own interpretation of the story. This also coincides with Piaget (1969) theory that children learn best through first hand self-direct play whereby they can make independent decisions and learn through experimenting and investigation. By children getting the opportunity to explore the iPad and interactive board independently it will also allow them to build on schemas previously learnt and enhance their skills and confidence with the digital device. (Allen et al, 2012).

The Social-emotional development and learning in the early years plays a vital part of children developing the skills needed to interact with others and build positive relationships. (David and Powell, 2014; Denham et al, 2013; Koglin and Petermann, 2011). Longitudinal research supports this and believes children with positive social and emotional development leads to high self-esteem and wellbeing which research shows a reduced risk of mental health in later stages in life. The activity supports this element as the children were divided into groups of four and encouraged to collaborate and create a puppet show. This element of the activity, supported by McConnell (2002), empowered the children to problem solve independently whilst deciding who was going to record and which roles the others would adopt, Wegerif and Dawes (Cited in Monteith, 1988) believes this will also teach children to take turns and show empathy towards one another and develop their personal, social and wellbeing skills by respecting their peers feeling and wishes; which are all skills recognised by the foundation phase (2008). Taaffe (2012) strongly believes that puppets are an effective way for children to overcome conflict and scenarios by asking open ended questions; 'what happens next?' 'I wonder what would happen if?' and therefore, develop their thinking and imagination skills through play.

The activity also had opportunities for the children to develop their literacy skills as they had to communicate with one another using a range of Welsh vocabulary and sentence structures, respond to and ask some questions such as why, what, how and where in relation to the digital task as they plan how they will go about the activity set. (Welsh Government, 2016).

With the optional enhanced learning whereby, children have access to HWB Welsh Government (2019), it promotes exploration online and provides education activities. This instantly enhances their literacy skills as they read and navigate their way around the page independently. One of the options accessible on HWB allows children to create a document with animations, change the size and turn stickers, words. Which meets the criteria of the DCF element of encouraging children to experiment with different fonts, italics, underline and bullet points, type a word (or simple sentence) and change the font, font colour and font size of the whole text and effectively upskill the children's competence.

The producing strand of the DCF is also met by the children working together to plan and search through the photographs before sequence the story we have been focusing on for the last couple of weeks on the interactive white board in order of events. This element of the task also encourages the children to beat the clock by thinking, communicating and problem solving as they drag the frame in the correct box. Though the use of the clock the children will develop their mathematical skills and understand the value of time by estimating how quick they will be able to complete the activity without the children realising. (Dockett and Perry, 2010; Spencer, 2013).

By the children interacting and collaborating with one another for the purpose of the focused activity, the children divided into groups of mixed abilities. Rowntree (1995:207) and Vygotsky (1978) state that children learn best from one another, Piaget (1969) on the other hand believes children learn best from positive first-hand experiences and places an emphasis on the ICT devices and resources within the activity as it simulates children's exploration and investigation where they can re-visit skills and consolidate their understanding of how to do things independently and thus increase their level of competence within ICT. (Allen et al 2012).

Crook (1996) and Mercer and Fisher (1997) both explain that ICT activities provide rich learning and collaborating opportunities whereby children can enter the zone of proximal development that underpins Vygotsky (1978) that encourages children verbalise their inner speech by hearing and scaffolding language by repeating. David (1997) and Smidt (2007) state that the young children learning potential is enhanced through rich group interactions and develop their literacy skills.

The role-play element of the activity allowed the children to link Piaget (1969) theory of schemas and make connections between the outside world and the setting. Mental Help (2019) also coincides with Piaget (1969) and promotes Bronfenbrenner theory that children learn from the environment use emphasise the importance of digital devices as resources to access information. This is an important part of children's learning as it deepens their understanding of their knowledge and understanding of the world and gives them opportunities to experience and recreate roles, emotions and relationships. (November, 2012). However, more importantly, the activity also allowed the children to handle the iPad and use the interactive white board and therefore allows children to explore how they work and increase their familiarity of the

device. Donaldson (2015) emphasises that children in the early years having opportunities with technology will in hand increase their competence and create a brighter successful future.

The purpose of the activity meets all the criteria placed by the Foundation Phase Profile, (Gov, 2015), that states ICT activities aims to help children find and develop information and ideas and then go on to progress by creating and presenting the ideas which was met by the children planning and recording their puppet show. Through this the children also developed a sense of awareness on how to use the digital device by handling it correctly, accessing the correct apps. Whilst the activity offered experience and participate in simple voice video or text communications to further the activity, be aware that there are different forms of online communication, e.g. e-mail, messaging, video call. (Woods, 2010).

Despite the activity at first sight focusing on the use of technology and it has helped the children develop holistically as it provided opportunities for children to investigate the outdoor space and use ICT has a portable tool. By doing so it encouraged innovation and creativity within the environment using digital technology; which Woods(2010) and Straker and Govier (1997) say it is very beneficial, as it is increasing the children's interest and concentration and therefore enhances their learning.

To conclude, ICT as a learning resource is not always seen as a positive as the practitioner's level of confidence and skills can lead to a negative attitude of ICT as an area of development. Despite this, the activity motivates children as they are naturally enthused by ICT. By embracing ICT, it opens innovative pathways to promote literacy and numeracy without realising by the children visualising printed words and letters and allows them to make sense of digital literacy.

DIGITAL MEDIA IN THE EARLY YEARS

The importance of digital media

As emphasised by the Digital Childhood Report (2017) and the Early Years Foundation Phase (DCFS, 2008) state it is extremely important to educate children and provide them with rich digital opportunities as it increases their independence, enhances development, lessens adolescent and prevents harm by promoting online safety.

According to the National Literacy Trust (2016) they believe that technology plays an important part in supporting early communication, language and literacy by providing rich opportunities that support children's development holistically.

The DCF (2016) emphasis that technology is a cross-curriculum subjects and provides learning opportunities for several areas of the Early Years Foundation Phase (DCSF, 2008).

Marsh et al (2015) and Ofcom (2015) state that 69% of 3/4 year olds use tablets, with over 91.4% of children having access to a touch screen at home. Which places a great emphasis on the importance on using digital media within the early years as a means of educating children on how to use technological devices safely and enhancing their skills and knowledge needed to increase their digital competence and create a brighter future. (Donaldson, 2015).

USEFUL LINKS THAT PROMOTES CHILDREN ONLINE SAFETY:

www.healthychildren.org/MediaUsePlan

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

Get Safe online-
<https://www.saferinternet.org.uk/>
Internetmatters.org

Ofcom Report (2018) -
<https://www.ofcom.org.uk>

10 tips for parents-
<https://www.netsafe.org.nz/online-safety-for-parents/>

United Nations Conventions for the rights of the child (UNCRC)

CEOP (2011)- Cartoon suitable for 5-7 year olds educating children on online safety.



TIPS FOR PARENTS TO OVERCOME BARRIERS:

- Talk to your children regarding online safety and make them aware of the importance of not sharing personal information.
- Have boundaries- so that children understand what is right and wrong and encourage them to filter any inappropriate content.
- Supervise their online time
- Use Parental controls such as password/pin protections/ age restrictions.
- Kiddi Youtube- only access suitable media for children.
- Limit Time spent on digital devices- According to BBC and Sigman (2012)
- Prevent in app purchases
- Access media collaboratively- interaction promotes scaffolding learning. (Vygotsky, 1978).
- Help children understand the concept of influencers and the agenda setting function that explains how the internet can influence adults and young children. (Lamb, 2002).
- Make yourself aware of the Digital Competence Framework (DCF) (2016) and Hwb which is used to promote ICT in schools as well as the digital childhood report which educates on online safety.
- The Children's Act 2004- Everyone has the responsibility to safeguard.

Negative Impact of Digital Media:

1. Brain development – Stimulation from technology has been connected with attention deficits, cognitive and learning delays, and impulsive and unregulated behaviours especially for those under 2 years that can not differentiate between 2D and 3D shapes. (Chassiakos et al, 2016).
2. Physical delays – Digital media is often described as a solitary device that does not always promote movement and activity. This is linked to obesity – Thirty-three percent of American children are obese, and children who have devices in their bedrooms are 30% more likely to be obese. (Plowman, Stephen and McPake, 2010).
3. Sleep deprivation – Hale and Guan, 2014 believe there is a positive correlation between screen time and sleep deprivation as they release inhibit sleep-wake hormones. The BBC 2019 and the American Academy for Paediatrics (AAP) advocate that parents should limit screen time to two hours a day.
4. Mental illness – Technology has been linked to and implicated in the increase in diagnoses of mental health disorders in children, including depression, anxiety, attention deficit, and problematic behaviour, and gaming disorder among others. (Lewis, 2008).
5. Aggression – Depending on their previous experiences, aggressive and violent games have been connected to aggression in children as they cultivation theory takes hold, to the extent that media violence has been labelled a public health risk due to its detrimental effects on kids. (Lamb, 2002; Martins et al, 2018).

The Benefit of Digital Media:

1. Educational Games- By children accessing games via digital technology it provides innovative ways to provide challenges to children in order to further their development. (DCSF, 2008; Kucirkova et al, 2014).
2. Fitness apps- Research shows that these apps promote health benefits that encourage children to part take in challenged that count their daily steps and promote physical development and the outdoors.
2. Literacy skills- digital technology provides innovative and creating means of developing literacy; it supports awareness of print, concepts of emergent writing and increased alphabetical knowledge. (National Literacy Trust, 2016).
3. Instant Access- Digital Media allows instant access to information and entertainment which all provide a variety of information quickly and is on hand to answer any questions children may have. (UNCRC, ARTICLE 13-RIGHT TO INFORMATION.)
4. Communication- Digital technology allows families to stay in contact and provides a means if sharing information though emails, skype, social media. (Pridham, 2014).
5. Interaction- The use of white boards and other technological devices also promote team working activities and collaborating which in hand helps children develop their socialising skills as children learn off one another (Vygotsky 1978)

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