

The use of digital media is growing at a rapid pace and children and adolescents are now immersed in a range of both traditional and new forms of media (Yolanda, 2016). Traditional forms of media, for example, the television, has seen research suggest that the content of viewing and the duration in which it is viewed can have negative outcomes and an effect on the health of the child (Yolanda, 2016). As we move towards a world where electronic media is embedded in the fabric of life (Kaiser Family Foundation, 2005), concerns are being raised regarding the risks of newer technology, for example the iPad and Interactive white board (IWB). This paper will examine the advantages and disadvantages of using an Interactive whiteboard and an iPad in a primary school and the effects these devices can have on the child's learning.

Digital media is not going anywhere and rightly so. When used appropriately it can be an advantageous tool for supporting children's learning and development (Bayhan, 2002). It is important to remember that when the internet was developed, it was conceived as an environment for adult users (Kidron, 2017), no one envisaged that one day, children as young as eighteen months would be delving into the realms of digital media (Hatzigianni, 2018). Very recently, there has been a lot of press on the appropriateness of children and adolescents' use of digital technology, for example iPads and iPhones. However, the press have only focussed on a few issues, for example screen time, which could imply those issues are more relevant than other issues like safeguarding. This could be reflected in McCombs and Shaw (1972) agenda setting function theory which suggests that the media can't tell you what to think, but can tell you what to think about.

A recent report by Baroness Beeban Kidron and Dr Angharad Rudkin (2017) outlines the importance of developing a set of guidelines for the needs of a child in a digital environment. They focus on the opportunities that are available and suitable to the age and developmental level of the child, rather than focusing on the few suggested negative effects.

The use of iPads and other touch screen technology has seen a significant increase in recent years (Ahearne et al. 2015). 96.6 % of children aged three and four are now able to navigate a mobile device or iPad and children as young as one are being introduced to the technology (Kabali et al. 2015). This steady growth remains despite the revised recommendations from The American academy of Pediatrics (2016) who proclaim that children under the age of eighteen months should only be engaging in video calls and children aged three to five should be accessing quality programmes for no more than an hour. However, The Royal College of Paediatrics and Child health (RCPCH) is not so specific. They suggest that the risks from screen exposure should not be over exaggerated stating that the evidence on the differential effects of screen time is too weak to guide parents to the appropriate level of screen time. The RCPCH suggest that screen time should however be controlled by the responsible adult and if the adult feels that the screen use is out of control, then there may be a need for parental support. With these relaxed guidelines, there is the danger that some parents may be tempted to use these technology devices for 'babysitting' (Kidron, 2017), passing the technology to their child to keep them quiet or occupied.

The Royal College of Paediatrics and Child health accept that time spent on a screen is a major part of modern life and is an essential part of a modern education (Viner, 2019). Couse and Chen (2010) discuss the potential for using iPads to support children's learning in Education and Brown-Martin, (2010) goes as far as to discuss the use of the iPad as a game changer. With the increasing demands to create the next generation of 'Digital citizens' it is perhaps why Donaldson developed the Successful Futures curriculum with an emphasis on digital competency. The Digital Competency Framework (2018) is part of the Successful

Futures Curriculum (2015) and is the first element of the framework to be made available. It has been developed to include learners in Wales aged three to sixteen plus and is part of the three cross curricula responsibilities including Literacy and Numeracy. The framework sets out a set of skills and attitudes that allow the learner to become confident and creative in the use of technologies and systems which are essential for the learner to be successful in today's society (Welsh Government, 2018).

The Digital Framework consists of four further strands- Citizenship, Interacting and Collaborating, Producing and Data and Computational thinking. Producing includes sourcing information, evaluating and improving digital content and being creative. For young children in a modern society, iPads are one of the many digital devices widely available for accessing resources to gain information to aid in their learning. Therefore, the iPad could be described as 'the more knowledgeable other' a notion put forth by Vygotsky (1978) when discussing his social development theory.

Khoo et al. (2015) suggests that an iPad can enable children to communicate their ideas and share and express their views in a multimodal way which is meaningful to them. There are however many researchers who disagree with this, proclaiming that iPads can have a harmful effect on young children's learning and social development (Bayhan et al, 2002; Kaiser family foundation, 2005; House, 2012).

Despite these claims, there is a wide spread recognition that iPads need to be incorporated in to modern education settings in a transformational way (Yelland, 2018). Whether or not an educator decides to implement technology with in the setting can have a significant impact on the child's development and learning (Plowman and McPake, 2013). With the negative attention that the use of technology in settings has attracted, it is likely that some educators have been discouraged to use technology with young children (Hatzigianni and Kalaitzidis, 2018). Other factors affecting educators use of technology may include confidence, age, experience and training (Hatzigianni, 2018). These can be summarised in Bronfenbrenner (1994) ecological model. The microsystem, which is the inner circle of the system, explores teachers' beliefs and personal characteristics and the mesosystem can be explored through training, working conditions and leadership practice (Hatzigianni and Kalaitzidis, 2018). When educators do choose to incorporate technology in to their teaching practice, supported iPad use can foster expanded holistic learning opportunities, child led interests and closer home links (Khoo et al, 2018). When scaffolding children's learning through the use of an iPad, and through the use of quality child- adult interaction, iPads can serve as a 'relational tool, a communicative tool, a documentation tool, an informational tool and an observational tool' (Khoo et al, 2018:2).

There is growing research examining the impact of iPads on certain developmental areas which suggest that language and vocabulary development can be enhanced when there is adult input. Khoo et al, (2015) proclaims that supported iPad learning could foster children's emerging literacies. With reports that fewer children are engaging in writing outside of the class and that when they do, it is the form of technology-based formats (Loerts and Heydon, 2017), there is a growing consensus that the use of digital technology is providing meaningful engagement in literacy activities (Dunn and Sweeny, 2018). Story making apps allow children to be creative through adding images, sound and text to their stories (Dunn, 2018). iPads have also been shown to enhance children's engagement in drawing (Couse and Chen, 2010). It is suggested that there is a need to incorporate the use of iPads into quality learning experiences as it can encourage independent learning, collaborating with others and communicating ideas and findings (Rowe and Miller, 2016). An article in The Guardian (2018) contradicts these claims by implying a report by the OECD (2015), suggests the

impact of computers on pupils learning was in fact ‘hurting learning’. This however is somewhat misleading as the OECD report (2015:6) recognises that technology can provide ‘great platforms for collaboration in knowledge’ and can ‘focus on learners as active participants’.

Alongside the use of iPads, over the last decade there has been a growing interest in the use of interactive white boards (IWB) and they are now widely used in schools in many countries (Jang and Tsai, 2012). It is thought that the IWB can replace many teaching aids such as the chalkboard, television, overhead projector, video and CD player and computer (Hall and Higgins, 2005). Research has highlighted that children’s motivation and engagement in learning can be increased through the use of IWB’s (BECTA, 2003) as they can support a range of learning styles (Beauchamp and Parkinson, 2005) and pedagogical approaches (BECTA) due to their diversity. Yanez and Coyle (2011) would agree as they discuss the multimodality of the IWB and how it caters for different children’s learning styles. Their usage can provide a visual, acoustic and kinaesthetic learning experience which can encourage reception of information, focus, and direct participation and knowing (Kabali, 2015). This can result in an increase in the pupil’s confidence and self-esteem (Knight, 2005).

IWB usage incorporates some of the elements from Bloom’s taxonomy (1956), ‘design, form, compile, construct, create, illustrate, propose, express, deduce outcome, etc.’ (Kabali, 2015).

IWB’s have become a popular device for younger children as part of their playful learning (Brecka, 2015). They can promote and develop cognition and can enhance their motivation and interests in a socially and intellectually stimulating way (Kershner, 2010). Jang, (2012) claims that the pupil’s attention can be enhanced when there is increased interaction between the children and the teacher. When the teacher models the use of the IWB and allows the child to observe before having a go, they are incorporating Bandura’s Social Learning Theory (1977) and Vygotsky’s social development theory (1962) by participating in social learning.

Like with the use of the iPad, the IWB alone cannot offer guarantee for successful learning (Yanez, 2011). There are a number of disadvantages to using such technology. Research has shown that teachers often lack the time needed to design instructional lessons for the IWB (Higgins et al, 2007) and that a lack of professional training can result in difficulties solving technical issues (Slay et al, 2005). It is also suggested that use of the IWB is often mainly used by teachers and that the children only use the IWB for games and golden time which is preventing them from engaging in child-led learning (Yanez, 2011).

Research carried out by Jang, (2012) also outlines that the cost of supplying each classroom with an IWB is not always feasible due to budget restraints and that sometimes, sunlight in the classroom causes light reflection.

Conclusion

With the introduction of the Digital competency Framework in to all schools in Wales and the continued growth in multimedia usage, it is clear that technology is going to remain embedded in the fabric of life (Kaiser Family Foundation, 2005).

For children to develop as ‘digital citizens’, practitioners need to embrace their own digital competencies and seek to develop their skills when their own competency is acting a barrier to the children’s learning (Plowman, 2013). For young children, iPad work should be

supported to enhance the children's holistic development and children should be encouraged to use the IWB for playful learning.

Component 2

LESSON PLAN

AREA OF LEARNING/SUBJECT: DCF, Creative development, Knowledge and Understanding of the world, ESDGC

DATE: 09/02/19- 19-02-19

SUCCESS CRITERIA:

Can they use an increasing range of appropriate vocabulary in structured activities?
Can they contribute to conversations and respond to others, taking turns when prompted?

Plan

A letter will be sent home requesting parents to send in a photo of the front of their homes. Photos can be sent in by hand or digitally through the use of class Dojo.

Using a range of recyclable materials, each child will be asked to create a 3d model of their homes. Children will have free choice to pick the materials they think best suits the design of their homes, thus promoting their self-identity and developing their agency. The photo will be at hand to help guide their choices. During this section of the lesson, children will work individually. The practitioner will act as the more knowledgeable other, asking open ended questions and furthering their development by discussing the different shapes that are visible and discussing the type of house they live in, e.g. semi-detached, terraced etc. The practitioner will ask questions about the different rooms in their house and encourage the child to discuss in detail. Once they have made the houses, they will paint and decorate them choosing the appropriate colours and they will be asked to write their house number on the doors. Children will then be encouraged to label the different rooms in their house, the practitioner will write down what they say for the children to attempt to copy and will differentiate for the less able.

When all children have made their houses they will line them up in the hall to create a street. In small groups, children will take turns programming the bee-bot to direct it to their own homes. This will involve estimating the distance they will need to send the bee-bot before turning left or right in to their 3d house. A practitioner will model the learning by showing the children how to use the bee-bot. They will be at hand to assist with any difficulties they may encounter. Each child in the group will be required to film their partner programming the bee-bot and watching it move to the desired destination.

Develop

Foundation Phase Framework

Knowledge and understanding of the world

- thinking creatively and imaginatively
- engage with resources from a variety of contexts including interactive forms
- learn about distance and how to follow directions and routes

(W.G., 2015:43)

Creative

- explore and experiment with a variety of techniques and materials
- make choices when choosing materials and resources
- develop and use their understanding of colour, line, tone, texture, pattern, shape and form
- develop their understanding of planning, designing, modelling, modifying and reflecting

(W.G., 2015:49)

Reflect/ Plenary

- Children to feedback to the other groups on how the 3d model experience went.
- Children to try and explain what they have built and why they have built it in that way.
- Adults to use prompting questions if necessary.
- Children to discuss how they are going to direct their bee-bot to their own home.
- Ask the children what their favourite activity has been and why.

Differentiation

When labelling the different rooms of the house, the practitioner will differentiate the learning. Being familiar with the children's capabilities, the adult will know who is capable of copying the words and who may need their words written down for them to over copy.

Literacy across the curriculum
• copy and write letters, words and phrases • talk about things they have made or done, adding some description • answer 'Who?', 'What?', 'Where?' and open-ended questions relating to own experiences, stories or events • take part in activities alongside others, with some interaction. (W.G., 2015:25-28)
Numeracy across the curriculum
• recognise and use the names for 2D shapes (circle, square and triangle) within play activities and the environment • use and build with 2D and 3D shapes within play-based activities (W.G., 2015:32-37)
Bilingualism
Incidental welsh language to be used throughout the activity
ICT
Digital competence framework. Strand- Citizenship. Element- Health and Well being • Use digital devices and media with care, <i>e.g. name a variety of digital devices and handle appropriately.</i> Strand- Interacting and collaborating. Element- Collaboration • work together with a partner/partners on a piece of digital work Strand- Data and computational thinking. Element- Problem solving and modelling • complete patterns and sequences (W.G., 2016)
Key skills
Cognitive Communication
Extension activities

- Design more complex street systems enabling children to increase the complexity of the bee-bot's movements.
- Upload video to HWB, signing in to their J2e account.

The above activity has been created to enhance the children's digital literacy skills through a cross curricula stimuli and as part of the homes and houses theme for the term. It has been designed for nursery/reception aged children and will involve both individual work and group work. The activity is hoped to develop a range of skills...

The Digital competency framework is an element of the new curriculum for Wales, Successful Futures, (2015). Alongside literacy and numeracy, digital competence is one of the three cross curricula responsibilities of the new framework. It has been developed to increase digital competence and raise the standards of literacy and numeracy in all learners in Wales so they can acquire the potential to be successful in today's society (Welsh Government, 2018). Although the digital competence framework has been rolled out in primary schools in Wales since 2017, the Foundation Phase Framework is still in place and practitioners are expected to continue to implement it. The activity has been developed to incorporate the cross curricula aspects of the Digital Competence Framework alongside the Foundation Phase Framework. The activity should enable children to participate in an engaging thought provoking lesson.

Having the free choice to select the resources for the 3d house building section allows children to develop their agency and autonomy. It also coincides with a statement for the creativity section of the Foundation Phase Framework (2015) - make choices when choosing materials and resources.

Using recyclable materials teaches children about the importance of looking after the environment and develops the child's skills as a global citizen, as part of the Education for Sustainable Development and Global Citizenship (Welsh Assembly Government, 2008).

One of the statements for nursery aged children in the Foundation Phase Framework (2015: 43), under the Knowledge and Understanding of the world section, is to promote 'thinking creatively and imaginatively'. The building of the 3d houses allows children to be creative and imaginative. Whilst, choosing the right shaped materials to resemble their home will involve problem solving and mathematical knowledge. The practitioner will prompt the child to use mathematical language throughout, discussing the shape of the windows, doors etc. and counting the sides and points of each shape. Emerging literacy and oracy skills will also be developed through discussing the photo of the child's home and compiling words for the labelling of the 3d house.

The activity will be differentiated to ensure its appropriateness for all learners, developing the child's self-confidence and in line with the UNCRC, rights of the child. Article 29 states that children's education should develop each child's personality, talents and abilities to the fullest and article 23 states that children who have any kind of disability have the right to special care and support (UNICEF, 1989).

Using the photo of their own houses can develop the child's self-identity and allow the child to feel part of the community.

The activity has been developed to incorporate the cross curricula aspects of the Digital Competence Framework and should enable children to participate in an engaging thought provoking lesson.

One of the Strands of the Digital Competence Framework (2018) is Data and Computational Thinking with the Element- Problem solving and Modelling. Under this section one of the statements is to 'complete patterns and sequences.' This is achievable through programming the bee-bot to move the required distance to reach their 3d homes. They will also be covering other strands from the framework, namely Interacting and Collaborating, by working together with a partner/partners on a piece of digital work.

By using the Bee-bots, children are developing their digital literacy skills. Digital literacy opportunities in the classroom affords a set of circumstances to make subject learning relevant to a society where the increase in technological use is broadening the way that children and adults alike participate in cultural life and represent and communicate information and meaning (Hague and Payton, 2010). Developing digital literacy skills in the classroom is providing opportunities for children to experience a range of digital technologies where the devices are appropriate and useful and can encourage being creative, active and critical users whilst developing subject knowledge and furthering their digital literacy skills (Hauge and Payton, 2010). Bee-bots are a small robotic toy that can be used for teaching children counting, sequencing, estimation and problem solving. The simple toy allows children to programme the device to move forward, backwards, left and right. They are simple to use and the children don't need to know their left from right as you simply press the directional arrows. Playing with the robot is an example of children coding and proficiency with coding is now seen an increasingly important practice for digital literacy (Campbell, 2017). Coding and programming can appear daunting and confusing to some practitioners; however both essentially mean to input instruction into a machine or robot (Campbell, 2017). The play element and the introduction to new technology is in line with the United Nations Convention on the Rights of the Child, (1989). Article 31 states that 'Children have the right to relax and play, and to join in a wide range of cultural, artistic and other recreational activities' (UNICEF, 1989). Play-based digital learning (PBDL) is an easy way to introduce robotics and coding into early years settings (Campbell, 2017). It is important to start digital literacy instruction from an early age and introduce children to the new vocabulary they will acquire through computer science and play-based digital learning as it can prepare children for the continuity in the curriculum (Campbell, 2017).

The requirement for children to record their partner's use of the bee-bot's on an iPad furthers the enhancement of digital literacy skills. By recording a video, they are using technology to design and author their own media which enables them to create and share meaning in multiple formats, thus developing their digital literacy skills (Hague and Payton, 2010).

The practitioner's role throughout the activity will be to act as the more knowledgeable other, scaffolding the learning where necessary. Through prompting questions during the 3d house building and the programming of the bee-bots,

children are encouraged to discuss what they are doing, thus engaging in algorithmic thinking (Campbell, 2017).

The planned lesson incorporates many statements and strands from the Foundation Phase Framework and The Successful Futures Curriculum. This affords many opportunities for assessment as part of the Foundation Phase compact profile.

Keeping young Children safe online

ADVICE FOR
PARENTS
AND CARERS

Children are increasingly using the internet from a very young age.

52% of 3 and 4 year olds are using the internet for 9 hours a week and **82%** of 5-7 year olds for 9.5 hours a week, **93%** of 7-11's for 13.5 hours a week with a huge **99%** of 11-15 years olds for 20.5 hours a week. (OFCOM, 2018).

With such startling statistics, it is imperative that your child is safe and informed when using digital media. This leaflet will discuss what you can do to help keep your child safe online.



Are you in control of your parent controls?

Parental controls are an easy and effective method for keeping children safe online. They can be used to block inappropriate, upsetting and sometimes harmful content and can also be used to block in-app purchases and limit your child's usage and screen time (NSPCC, 2019).

Do you know what your child is doing on the internet?
Whatever your child is doing, there are ways you can keep your child safe

- Home broadband- most internet providers offer a filtering system which can control the content that your family are viewing. It is simple to do and can offer some piece of mind. More information is available at [UK Safer Internet Centre](https://www.uk-saferinternetcentre.org/) and [Internetmatters.org](https://www.internetmatters.org/)
- Mobile phones and tablets- lots of tablets and phones come with settings for controlling what your child can access online. Remember to check the location settings and discuss with your child what information they are sharing.
- Search engines- Filters like Google SafeSearch allow controls to be placed on the content that searches bring up as sometimes innocent searches can result in inappropriate content.
- Games consoles- modern consoles are often internet enabled which means your children can talk with other players.

For more information on all the parental controls available or for help setting them up, visit <https://www.nspcc.org.uk/preventing-abuse/keeping-children-safe/online-safety/parental-controls/>

Important factors to consider for keeping your children safe when using the internet



(Source: FreePic, 2010).

45% of 3-4 year old are using YouTube with 80% of these using it to watch cartoons and 40% using it watch pranks and funny videos (OFCOM, 2018). YouTube can be an effective way for children to access content. Although there are measures in place to keep dangerous videos off YouTube, trolls are frequently breaking the barriers. A recent report in the Washington Post claims that a number of videos ‘pushing dark and potentially dangerous content on social media platforms, particularly on YouTube Kids’ have been discovered, with some glamorising suicide and offering instruction (Beaver, 2019). The alarming content is being hidden a few minutes into the cartoon to avoid parental recognition. These are worrying findings and are difficult to prevent. It is suggested that if you allowing young children to watch YouTube then you should be constantly monitoring the content to avoid such circumstance (Kaslow, 2019) .

Online Gaming



(source: FreePic, 2010)

Online gaming is an increasingly popular activity for children and young people to participate in. Being internet enabled means they can interact with other players. It is important you discuss with your children about the dangers of talking to strangers online and how they shouldn't be disclosing any personal information. There is an excellent video on YouTube that explains the dangers, available at <https://www.youtube.com/watch?v=-nMUbHuffO8>

Social Media



(source: FreePic, 2010).



18% of eight to eleven year olds having a social media account and a huge 69% of twelve to fifteen year olds (OFCOM, 2018), yet staggeringly, only one in five parents are aware that social media sites have an age restriction. Whilst social media allows children to feel closer to their friends, there are some negative effects of its use. 78% of children feel pressured to look popular and 90% of children reported that people are mean to each other (OFCOM, 2018).

Make sure you check age restrictions for social media accounts before allowing your children to sign and talk to your children about what they can do to stay safe. Ask your child if they know

- where reporting functions are
- how to block someone
- how to keep information private. (NSPCC, 2019).



Cyber Bullying

Recent research by Ditch the label, an anti-bullying charity, suggests that 17% of young people have been bullied online and 69% have been abusive to someone online. As a parent or carer, it is important to have regular conversations about such issues. If they disclose they have been subject to cyber abuse-

- Let them talk
 - Encourage them not to retaliate
 - Save any evidence
 - Talk to the school/police
- (UK Safer Internet Centre, 2019).

Suspect your child is behaving negatively to someone?

Sometimes children find it hard to distinguish between banter and acceptable behaviour.

For more information call [The Family Lives helpline](https://www.familylives.org.uk) on 08088002222



shutterstock.com • 725716678

(Source:FreePic. 2010)

Sexting

Sexting is sending messages of an explicit nature or sending nude/partially nude photos or videos of themselves or others. To a young person, this is often seen as harmless fun but in reality, it can have dire consequences. The sender has no control about how it is passed on and what was thought to be a private message could end up all over social media, resulting in unwanted attention, bullying and emotional distress. It is in fact illegal for a young person to take, share and possess an explicit photo/video of themselves or a friend (NSPCC, 2019).

The best thing you can do to keep your child safe is talk! It may feel uncomfortable having the conversation but discussing the dangers of sexting and the implications they may face, can equip your child with the knowledge to be safe and informed.

Set rules and boundaries and talk, talk, talk!

Although we have focused on the negative effects of internet use, it is important to remember all the positive attributes, and for your children to thrive in today's society, it is essential they develop as digital citizens (W.G, 2019).

Setting rules and boundaries can allow your children to participate in safe internet use.

- Set boundaries for what your child can do online and for how long
- Talk to your child about online safety
- Check for age restrictions on websites, games and social media
- Adjust parental controls to be suitable for your child's age and maturity (NSPCC, 2019).

Some Useful contact details

UK Safer Internet Centre- www.saferinternet.org.uk/parents

Supporting Young People online- www.childnet.com/resources/supporting-young-people-online

Internet Parent Controls- www.childnet.org.uk/parental-controls

Childnet International- www.childnet.com

Social Network Checklist- www.saferinternet.org.uk/checklist

Childline- www.childline.org.uk

NSPCC- 0808 800 5002

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