

EAAE 6006

Critical Evaluation

The experience based practical learning (Dewey, 2001), where learners take an active role in their learning, that aids cooperation and have the ability to influence choices. Furthermore, according to (Jarvis et al, 2003) when ICT is presented in real context it can play a significant part in experiential learning.

With focus on a play centred approach, ICT can offer a type of play through computers. Teachers need to be familiar with games available to children in a class, to see if they are appropriate to ensure effective learning, but more importantly a teacher knowledge of the curriculum to ensure the educational objective are met (Sandford et al, 2006)

Studies have shown that the use of interactive whiteboards, can make it visible what children know, just like other ICT resources, they are a valuable, supporting tool for increasing children's learning, by sharing ideas, and participation by all children. (Warwick and Kershner, 2008) However, even though interactive whiteboards are a beneficial resource it can have its disadvantages for children who have issues with fine motor skills unless adaptations are made, the interactive whiteboards still motivated such children.

(Odom et al, 2015) With the development of technology aided interventions for children with disabilities, such as helping with communication. (Desch, 2008)

ICT as a tool, portable devices such as hand held computers can be used by all children, but they are especially useful for additional needs pupils, because they prevent anxiety over losing papers (Florian, 2004)

Theory shows interaction improves learning, so with the development of media devices that have touch screen, theoretically this has the potential to

increase the building of skills by providing scaffolding, with touch screen interacting with how a child is responding (Chassiakos et al, 2016).

Opportunities to use ICT in collaborative work can contribute to sociocultural view of teaching and learning (Vygotsky, L, 1978) addressing the zone of proximal development (ZPD), that the learner has the potential to make progress when working in collaboration with others. However, Consideration needs to be taken, about the potential for using ICT in primary schools, will is this type of collaboration really help realise potential (Jarvis, et al, 2003)

ICT is effective at transmitting information, through different methods of media, it is quick, and can be useful for teachers in contemporary settings, (Cook, 2010) however, the behaviourist model of learning, where the objective is to accumulate knowledge and the teachers task is to transmit to the learner, means that just because ICT can be used to teach it does not mean it is appropriate for learning and teaching (Beauchamp,2012)

ICT has the capacity to offer high quality of visual and auditory material, but it is important not to confuse learning styles with intelligence, however, research on neuroscience and education states that presenting material in a manner that suits a particular learning style, can improve learning, (Howard-Jones, 2007) Moreover, quality research is scarce to prove the links of Visual, Auditory and Kinaesthetic – VAK to academic performance in primary school. (Sharp, Byrne and Bowler, 2008) This is reinforced by (Goswami and Bryant, 2007) that “Learning by the brain depends on the development of multi-sensory networks of neurons distributed across the entire brain”, so VAK is not reinforced by the brain science of learning.

ICT can provide visual and aural stimuli, when planning lessons, its value for presenting learning materials through a range of media will engage the learner and support their learning, as it can benefit a range of learning styles therefore it is essential not to label children in terms of learning style (Howard-Jones, 2007).

Research shows there is an association between aggressive behaviour in children and violent media content, unfortunately monitoring is difficult when children are using mobile devices. (APP, 2016)

Parents and caregivers have a responsibility to model optimal behaviour when it comes to media use, with the increased use of media by parents leading to a decrease in verbal interactions with children (Radesky, 2015).

Devices can lead to improved social interactions with people who live away, but can have adverse effect and distract from interactions with the people you live with, the opportunity to model appropriate amount of media use by parent will impact the children's media habits (Jago, 2012).

An Ofcom report found compared to the previous report they carried out 10 years previous, it was discovered that the use of devices has led to a more extensive online experience. (Ofcom, 2015) Time spent on smaller devices has increased making parental supervision difficult.

Due to the way digital games are designed, by behavioural reinforcement to ensure engagement, it causes children to be less socially engaged when they are playing on games consoles. This in turn can cause inappropriate behaviour when it comes to interrupting children when they are playing. (Hiniker et al, 2016)

This is a concern that the games should be engaging (Vaala et al, 2016)(Hursh-Pasek et al, 2015) without being distracting, this can be achieved through the designing of games for both child and parent, this would facilitate and allow for social interactions.

Successful futures recommend that the three competencies, literacy, numeracy and digital are fundamental to all learning as digital competency is essential to learning and life and taught cross curriculum and embedded in school like (Welsh Government, 2015)

Schools have had the greatest impact from the introduction of ICT, it has become part of everyday life and has influenced the role of the teacher. Traditional methods of teaching have necessitated the need for training and updating of teaching methods to incorporate the use of ICT(Hernandez, 2017).

Benefits of media is the fact you have access to new ideas; support networks and communication is possible across long distances which allows for collaboration with others who are geographically separate. (Moreno, 2013)

Children in a Digital World report (Unicef, 2017) states that the internet influences the best and worst of human nature, it is important to expand the opportunities and alleviate the harm as digital technology now affects virtually all aspects of our lives. Digital technology is changing the world, through education, access to information and social media, but a digital divide is apparent where 29 % of adolescence cannot go online. There is also the impact on children health, though most experiences are positive there is still concern for children mental health. (UNCRC, 2020) Article 17 states that every child has the right to reliable information from media, and the Government has the responsible to protect children from harm.

(Moursund, 2005) States that the potential of using ICT in the educational system, would contribute to considerable improvements. However, (Lopez, 2003) even though ICT has a significant impact on the school system comparatively little of this potential has been achieved.

Research in Nigeria (Olaore, 2014) looked at the positive impacts of ICT and how it can deliver learning experiences, supplement and extend learning, by supporting conventional class work with the introduction of individual learning

programmes that can be accessed by the children enabling differentiation to take place in the class.

The negative impacts occur when ICT becomes a distraction from learning, in the tangible world and some schools are disadvantaged due to the high costs involved with ICT and the lack of funds. The advantages of ICT outweigh the disadvantages, because ICT can have a positive impact on education (Olaore, 2014) .

The importance of successfully integrating ICT effectively into the classroom depends on the teacher's capacity to structure a meaningful learning environment, so equipping the children with the necessary skills and knowledge (UNESCO, 2008) ICT is an essential element, and valuable resource for learning with the potential to improve learning outcomes (Hernandez, 2017)

ICT has two objectives, children have an entitlement to develop skills and use them to enhance learning across the curriculum (Hall, 2010) The use of ICT to enhance a range of subjects, this will lead to a child led rather than subject focused pedagogy (Beauchamp, 2010)

Evidence shows positive effects on pupils' attainment through the use of ICT; however, the central component is the choice of equipment, and the teacher's pedagogical approach (Cox et al, 2003). Furthermore, ICT is not transforming and doesn't guarantee learning, (Cox et al, 2003) states that insufficient understanding can lead to inappropriate use in the curriculum, for effective use in learning, teachers must have a thorough understanding of ICT.

Studies have shown that the constructivist approach in addition to technology has a constructive impact on learning outcomes (Dwyer et al, 1991) because it had a positive effect by supporting collaboration, interaction and child led learning. However, (Van Den Dool, 2003) when technology is introduced into the classroom it depends on the pedagogical approach as to how the learners

will benefit, it does not mean having the latest equipment but how learners are supported when using ICT.

Social media has its place in promoting improved health, its facilities access to valuable information and support (Naslund et al, 2016) giving a feeling of connectiveness and access to resources. However, there are risks of misinformation and it is essential that you are aware of how to establish what is accurate information, but it can still be a useful source of information.

The important of children's wellbeing in a digital environment that was not intended for children, just because a child can use technology there is no evidence that they are a creative participant. (Kidron and Rudkin, 2017) More research is required, and commercial interests should not be put before the wellbeing of children, most of the developmental milestones research predates the digital age, it is therefore not possible to accurately predict the impact on children.

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Media and Digital Literacy

Activity Plan		
Description of experience: The planned activity will take place around the school grounds. The children will have time to investigate the area, looking at the different things that can be seen and heard, using ICT this is a cross circular experience which is a holistic approach that supports several learning outcomes.		
Number of children: Six	Age of children: Reception Class	Number of adults: One
Location: School grounds	Preparation time: 10 minutes	Activity time: 30 minutes
Resources: Cameras – Vtech Kidizoom iPad Small digital voice recorder Video camera Digital camera		

Clipboards
Paper
pencils

Aim/s of activity:

To develop an understanding of different media equipment
To develop fine motor skills.
To develop gross motor skills.
To develop Knowledge and understanding of the World - to gain an appreciation of nature using a range of stimuli.
To develop social and emotional skills - working together in pairs/group.

Links to outcomes:

Personal and social Development, Well-being and Cultural Diversity

- Show curiosity and develop positive attitudes to new experiences and learning.

Knowledge and Understanding of the World.

- Exploring and experimenting.
- Investigate sources and issues.
- Thinking creatively and imaginatively.

Physical

- Develop coordination, to be able to move safely and with increasing control.
- Develop sensory awareness.

Creative

- Explore and experiment with a variety of techniques and materials.
- Make choices when choosing materials and resources.
- Reflect on their own and others' work.

The Activity:

The resources that are required to facilitate the activity were taken out by the children; they can swap the resources as the activity progresses, as we are just within the school grounds. It will be a child led activity because the children chose which resources they want to use and by using different ICT

resources the activity can be differentiated for all children to have a go.

Prior to starting the activity, I will talk about the activity that is planned, and the equipment being used.

Let the children work together while they investigate the area. Taking photos of the leaves and bugs that they find, using the camera and iPad. To further extend the activity, they can do a drawing of what they found on the paper they have with them. This can be shown to the other children after the activity, so we can compare how many things were seen and heard.

The children using the voice recorder can listen and record the sounds around the school grounds, cars, birds and the sounds of the weather,

Giving the children the opportunity to have access to different media equipment. The children can achieve the objective of this activity, by the children working together to find resources and helping each other to use the media equipment to take pictures and record sounds, this will help them develop social and emotional skills.

Monitoring the children during the experience is an integral part of assessing the children's knowledge and understanding of the experience and their understanding of the ICT beginning used.

This activity will appeal to the kinaesthetic learner as it is having a very practical hands on experience element to it, this will help improve the children's fine motor skills through use of touch screen iPads, cameras and voice recorders.

This is a multi-sensory experience because the children will have to be aware of their surrounds to photograph and record sounds to achieve the aim of the activity. This activity promotes awareness of the natural world by using ICT resources to capture what the child sees and hear.

Allowing the children to find and record what they have found and hear will encourage the children to participate in this activity. Using media equipment of different kinds offers them the opportunity to engage in ICT from an early age, this will impact on them in later life.

Encouraging the children to work together and sharing the ICT equipment so all the children can actively participate in all parts of the activity.

Reflective Account

This use of the ICT that was chosen for this activity offers flexibility, so the child can control what technology to use which will increase their capacity to make decisions. Children learn better by undertaking a task or activity than by being told (Fisher, 1991). This activity offered the children the opportunities for unintentional learning, the broad outline of the activity is planned but the children's experiences will all be varied according to what they find of interest when we are exploring the environment.

The equipment used can be accessed by all the children as the iPads have touch screen and voice activated sound recorders, so is inclusive of all children in the group, as stated by (Rahamin, 2004) ICT is able to support children with additional needs, allowing them to achieve things that might be difficult or impossible for them to accomplish in any other way.

The use of ICT in the outdoor environment allows them to explore and exchange information creatively. The skills gained will prepare children for a constantly changing world, where the use of ICT promotes independent learning (National Curriculum for England, 2000).

ICT skills are used by learners across the curriculum, to discover, create and present information by using a range of equipment, (Beauchamp, 2012) as in this activity the children were given a choice from a range of media equipment to use in a heuristic manner.

(Becta, 2002) The potential for the use of ICT outside the classroom, is the use of digital cameras and iPads to record their experiences, giving them hands on data collection, so identifying a practice use of ICT.

The use of ICT is a tool as a means to integrating subjects, (Barns, 2007) just as our world is cross-curricular and seen from different perspectives.

The use of ICT for this activity has provided opportunities making it possible for the children to explore the outdoor environment and also gain experiences of a range of ICT equipment.

Children construct meaning through interaction and encounters in different environments, Constructivist theorist (Paiget, 1970) suggested children learn by doing and when they are actively involved, they are motivated by their own need to make sense of the world, so learning through investigation. (Dwyer et al, 1991) My role during the activity was to support and guide them so they are able to take control of their independent learning experience. The children gained meaningful experiences from being outside using ICT since they were engaged in the activity as they were able to choose either to work together or as individuals.

According to (Bruner, 1960) learning is an active process, if children acquire the knowledge themselves, they should retain it.

(Papert, 1991) Describes learning as constructing knowledge instead of a transmission of knowledge, which is the main concept of the activity, the children were taught how to do something instead of teaching them something. The children used the equipment to discover new and interesting things, they also learnt how to use technology to achieve their goal.

Furthermore, (Jonassen et al, 2003) proposes that learning experiences that are a combination of learning and instructional activities result in a more meaningful learning outcome. With the effective inclusion of technology, it supports children to be more collaborative and become independent learners.

The use of technology creates an environment that is inclusive were children work with their peers, making children more confident and included in the learning process.

As it is in a less formal environment, it will provide a novel context for learning, choosing a different outside environment other than the school ground will

give the children an opportunity to explore their interests more. I encouraged the children to be responsible for the equipment during the activity and they were responsible for returning it to the classroom.

The less formal environment offered challenges such as does the activity conform to the curriculum and will it enable effective learning also is working in the outdoors a distraction from learning. By encouraging children to use ICT it can enhance their learning cross curriculum.

I needed to consider how to use ICT effectively, I had to consider the impact of learning styles and the role ICT plays, to ensure that all the children gained something from the activity (Howard-Jones, 2009)

As the activity is child led, I provided the appropriate resources to carry out the activity, and enough equipment so all the children were able to be engaged in the activity at all time also to make sure all the children were able to achieve the outcomes of the activity as it is important that they were able to be fully engaged at all times.

The activity gave the children the opportunity to use different ICT equipment to record sounds and take photographs therefore learning about their environment and gaining knowledge of how to use the equipment, they gain a new skill and they will be able to share their findings (Galloway, 2000).

As the activity is interactive it encourages collaboration as the children could work in groups or pairs, this will improve communications and social skills. The use of cameras and recorders, they will help children develop a sense of the world around them, by investigating and recording their environment (Elston, 2007).

An extension of the activity is to get the children to use what they find to create picture, that can be photographed to show the rest of the class and be part of a display. The experiences of collecting, taking photographs and

recording the sounds in the environment can then be shared with the rest of the class through being an integrated part of a class display.

Educators such as (Montessori, 1912) believed that multisensory teaching can improve learning. The advantages of multisensory training (Montessori, 1967) is that it engages children with different learning styles for instance visual learners and audio learners, which indicates that the use of a mixture of approaches as in Montessori schools, allows for a larger amount of information to be processed between the senses.

Research has shown that the Montessori method of education of the senses is still relevant. Montessori's materials are extending from traditional physical to technological tools. (Drigas and Gkeka, 2016) The innovation of Montessori has enhanced contemporary education through ICT, Montessori encouraged multisensory learning, which the brain needs to develop the acquisition of knowledge, (Sham and Seitz, 2008). Argues that the use of ICT educational techniques enables multisensory learning.

The digital framework (DCF) is a set of skills, knowledge and digital competence is not the same as ICT, it focuses on developing digital skills that can be applied across all subjects, it should be embedded within the areas of learning and experience, by providing opportunities for learning by providing connections with other areas of learning. Learners need to be educated how to create as well as use. (Welsh Government, 2008)

The digital framework (DCF) sets out four strands, that have several elements that should be considered when planning an activity, that learners would be expected to attain. Interacting and collaborating is a essential part of this activity as the children will have to decide what is the most effective equipment for the part of the activity they are doing. This activity included a variety of multimedia components giving the children the opportunities to start developing skills empowering them to contribute to an increasingly digital world around them. (Welsh Government, 2016) The DCF approach is

inclusive and incorporates 'routes for learning' skills and offers an holistic approach.

By observing the children while they participate in the activity and how they use the environment and equipment during the activity with the help of the Mosaic approach (Clark, 2020), it will contribute to creating an overall picture of the effectiveness of the area and equipment to enable learning to be achieved. The pieces of the mosaic will be a valuable insight into how the children feel about the environment and with the use of photographs and videos, the inclusion of child led tours of the environment would further enhance the activity and supplement the overall picture. This is aligned with the UNCRC article 12 (Unicef, 2020) that children's opinions should be considered when decisions are made that will affect them, so children feel able to express themselves without being disregarded.

Safety tips for Parents

Online and Mobile Safety

Start Talking

If you are worried about conversation with them their life on and offline. using the internet is it for homework or apps. (NSPCC, 2020)



your children's online usage, start a reassure them you are interested in Get them to show you why they are

If you have any concerns, you can contact NSPCC helpline for free support and advice 0808 800 5000.

Online safety and support

Net Aware – get advice on apps, sites and children's games, also advice on how to set up parental controls. When you get new devices set them up together also create a family agreement, so you and your children work together to keep them safe online. (Net Aware, 2019)

O2 NSPCC Advice line – get advice on parental controls and privacy settings. 0808 800 5002

Online safety in school

Online safety is covered in areas, such as Health sites have age restrictions. It



children are using digital devices, how it could impact on their health and wellbeing. E-safety is part of the Computing curriculum how to use technology safely, it covers how the information is used and shared online, how everyone has a digital footprint. (Department for Education, 2019)

schools under different curriculum Education, that look at why some is important to think about how long

S.H.A.R.E

Beware that not everything online is what it seems, by using the S.H.A.R.E checklist, you can check if what you find on the internet is accurate information before you share it, so avoiding the sharing of harmful content. Share checklist (HM Government, 2020)

Source – is it from a source you can trust.

Headline – is it believable.

Analyse – check the facts, if

Retouched – check if the



unsure double check the facts.

images are authentic, that thy haven't

been altered in any way.

Error – check the URLs, are there spelling errors etc.

How to stay safe online?

It's important to stay safe online, there are many risks involved in going online, there are interesting and fun things and it's a good way to keep in touch with friend, but it is essential to be aware of the risks. (Childline, 2019)

Think before you post anything, don't share things about yourself that you wouldn't want your parents and teachers to see.

Never share your address and telephone number, update your privacy settings.

Beware of scams, never give emails you are not sure of.



out information or log into links from

Think before you share information with someone you have met online.

Don't share your passwords and keep your devices secure and cover your webcam when not in use.

Digital 5 a Day



Campaign

This campaign is based on wellbeing' (NHS, 2020) steps you can improve your

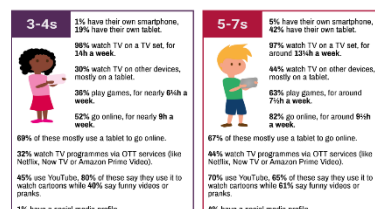
the NHS's 'five steps to better mental evidence suggests that following these mental health and wellbeing.

Connecting and building good relationships is important but not to rely on social media and texting alone to build relationships.

This campaign provides a framework for families to use technology to empower children to make the most of the opportunities that technology offers them. It enables children to stay connected with family and friends, and form new relationships, use it as a tool to research new activities together, which is important to boost their emotional wellbeing and keeps children active by taking some time away from the technology.

Having a balanced approach to using technology is essential for developing a healthy lifestyle. Be mindful of the amount of time children are spending online and how it makes them feel. Young children are spending over 8 hours a week and 12-15 years olds spending over 20 hours a week online, this increasing on school holidays, its important to agree some boundaries as to how much time is appropriate and healthy for your child to be using technology. (Children's Commissioner, (2020)

According to an attitudes television has viewing



Ofcom report on Media use and (Ofcom, 2018) watching the declined to be replaced with programmes online instead, where

the contents is not so easily controlled, it is important to find out what your children understand about what is appropriate and what is not. It is important to monitor and control the amount of screen time children have, through use of PINs, supervision, rules and other technical tools.

Playful Childhoods – Top tips for screen time

The challenges of protecting your children online are the same as protecting them offline. Screen time can present some positive and negative opportunities. Parents need to support their children to learn how to balance their screen time, by managing and setting how much time they spend online. Its important to engage with your child about their use of digital technology, play games or watch them playing.

You can be a good role model by limiting your own screen time, and by providing a range of other activities so enabling your children to manage their own time on devices.

The Top tips for screen time can be printed off the website. (Play Wales, 2018)



Reference List

AAP (2016) *American Academy of Pediatrics, Council on Communications and Media*. Virtual violence statement. *Pediatrics*. 2016;138(1). Available at: <https://pediatrics.aappublications.org/content/early/2016/07/14/peds.2016-1298> (Accessed: 8 Jul 2020)

Barns, J. (2007) *Cross-curricular Learning 3 – 14*. London: Paul Chapman Publishing.

Beauchamp, G. (2010) 'Knowledge and Understanding of the world', in Palaiologou, I, (ed). *The Early Years Foundation Stage: Theory and Practice*. London: Sage.

Beauchamp, G. (2012) *ICT in the Primary School. From Pedagogy to Practice*. Essex: Pearson Education Limited.

Becta (2002) *ICT supporting teaching: developing effective practice*. Coventry: Becta.

Bruner, J. (1960). *The Process of Education*. Cambridge, MA: Harvard University Press

Chassiakos, Y, Radesky, J, Christakis, D, et al. (2016) *AAP Council on Communications and Media. Children and Adolescents and Digital Media*. *Pediatrics*. 2016;138(5): e20162593 Available at: <https://pediatrics.aappublications.org/content/pediatrics/138/5/e20162593.full.pdf> (Accessed: 20 July 2020)

Childline Online. (2019) *On the phone, Anytime* Available at: <https://www.childline.org.uk/info-advice/bullying-abuse-safety/online-mobile-safety/staying-safe-online/> (Accessed: 1 February 2020)

Clarke, A. (2010) *Transforming Children's Spaces: Children and Adult's Participation in Designing Learning Environments*. London: Routledge.

Cook, D. (2010) *Views of learning, assessment and the potential place of information technology*. London: Routledge.

Cox et al. (2004) *ICT and Attainment: A review of the Research Literature*. Available at: <http://www.becta.org.uk> (Accessed: 4 March 2020)

Criterion Conferences. (2015) *Cyberbullying*. Available at: <https://www.criterionconferences.com/blog/socialtech/4-clear-steps-say-bye-cyberbullying/> (Accessed: 1 February 2020)

Department for Education. (2019) *Teaching online safety in school*. Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/811796/Teaching_online_safety_in_school.pdf (Accessed: 2 February 2020)

Desch, L., Gaebler-Spira D. (2008) *Council on Children with Disabilities. Prescribing assistive-technology systems: focus on children with impaired communication*. *Pediatrics*. 2008;121(6):1271–1280

Dewey, J. (2001) '*The Educational situation: as concerns the elementary school*'. *Journal of Curriculum Studies*.

Digital five a day. (2018) Available at: <https://www.healthyyoungmindsinherts.org.uk/links/digital-five-day> (Accessed: 24 February 2020)

Drigas, A. and Gkeka, E. (2016) *Montessori methods and ICTs. International journal of recent contributions from engineering, science and IT (IJES)*. 4. 25. 10.3991/ijes.v4i1.5481 Available at: https://www.researchgate.net/publication/299500669_Montessori_Method_and_ICTs (Accessed: 3 February 2020)

Dwyer, D, Ringstaff, C and Sandholtz, J. (1991) *Changes in teachers' beliefs and practices in technology-rich classrooms*. *Educational Leadership*, vol.48, No: 8

Elston, C. (2007) *Using ICT in the Primary School*. London: Sage.

Fisher, R. (1991) *Teaching Juniors*. Oxford: Blackwell.

Florian, L. (2004) '*Uses of technology that supports pupils with special educational needs*', in Florian, L and Hegarty, J. (eds), *ICT and special Educational Needs: A tool for Inclusion*. Maidenhead: Open University Press.

Galloway, J. (2007) *Primary ICT for Teaching Assistants*. Abingdon: Routledge.

Goswami, U and Bryant, P. (2007) *Children's Cognitive Development and Learning* (Primary Review Research Survey 2/1a) Cambridge: University of Cambridge Faculty of Education.

Hall, D. (2010) *The ICT Handbook for Primary Teachers: A Guide for Students and Professionals*. London: Routledge.

Hernandez, R. (2017) *Impact of ICT on Education: Challenges and Perspectives*. *Propósitos y Representaciones*, 5(1), 325-347. doi: <http://dx.doi.org/10.20511/pyr2017.v5n1.149>

Hiniker A, Suh H, Cao S, Kientz JA.(2016) *Screen time tantrums: how families manage screen media experiences for toddlers and preschoolers*. In: CHI'16. Proceedings of the 2016 CHI Conference on Human Factors in Computing Systems; New York, NY. 648–660. Available at: [http:// dl. acm. org/ citation. cfm? doid= 2858036. 2858278](http://dl.acm.org/citation.cfm?doid=2858036.2858278). (Accessed: 16 Jul 2020)

Hirsh-Pasek, K, Zosh, J, Golinkoff, R, Gray, J, Robb, M, Kaufman, J. (2015) *Putting education in "educational" apps: lessons from the science of learning*. *Psychol Sci Public Interest*. 2015;16(1):3–34

Howard-Jones, P. (2007) *Neuroscience and Education: Issues and Opportunities, A Commentary by the Teaching and Learning Research Programme*. London: TLRP

Howard-Jones, P. (2009) *Neuroscience, Learning and Technology (14-19), for Deep Learning project*. London: BECTA.

HM Government (2020) *Share checklist*. Available at: <https://sharechecklist.gov.uk/> (Accessed: 1 February 2020)

Jago, R, Stamatakis, E, Gama, A, et al. (2012) *Parent and child screen-viewing time and home media environment*. Am J Prev Med. 2012;43(2):150–158

Jarvis, P et al. (2003) *The Theory and Practice of Learning*. 2 nd Ed. London: Routledge Falmer.

Jonassen, D. Howland, J and Moore, J. (2003), *Learning to Solve Problems with Technology. A Constructivist Perspective*. 2. Ed. Upper Saddle River: Pearson Education.

Kidron, B and Rudkin, A. (2017) *Digital Childhood Report: Addressing childhood Development Milestones in the Digital Environment*. Available at : https://5rightsfoundation.com/static/Digital_Childhood_report_-_EMBARGOED.pdf (Accessed: 2 February 2020)

Let's keep kids safe online (2019) Available at: <https://www.net-aware.org.uk/> (Accessed: 2 February 2020)

Lopez, V. (2003) *An exploration of the use of information technology in college classrooms*. College quarterly.

Montessori, M. (1912) *The Montessori Method*. Frederick Stokes

Montessori, M. (1967) *The Absorbent Mind*. Holt, Rinehart and Winston

Moreno MA, Gannon KE. *Social media and health*. In: Rosen D, Joffe A, eds. AM STARs Adolescent Medicine: State of the Art Reviews. Young Adult Health. 2013;24(3):538–552

Moursund, D. (2005) *Introduction to information and Communication Technology in Education*. Available at: <https://core.ac.uk/download/pdf/36680905.pdf> (Accessed: 2 February 2020)

Naslund, J, Aschbrenner, K, Marsch, L, Bartels S. (2016) *The future of mental health care: peer-to-peer support and social media*. Epidemiol Psychiatr Sci. 2016;25(2):113–122

Net clip art. (2019) *Kids Poses*. Available at:
https://www.netclipart.com/isee/hhwxxh_social-media-clipart-21st-century-snapchat/Net (Accessed: 1 February 2020)

Net clip art. (2019) *Social Media icons*. Available at:
https://www.netclipart.com/isee/hhwxxh_social-media-clipart-21st-century-snapchat/ (Accessed: 1 February 2020)

NHS (2020) *5 steps to mental wellbeing*. Available at:
<https://www.nhs.uk/conditions/stress-anxiety-depression/improve-mental-wellbeing/> (Accessed: 24 February 2020)

Odom S, Thompson J, Hedges S, et al. (2015) *Technology-aided interventions and instruction for adolescents with autism spectrum disorder*. J Autism Dev Disord. 2015;45(12):3805–3819

Olaore, I. (2014) *The Impacts (Positive and Negative) of ICT on Education in Nigeria*. Developing Country Studies ISSN 2225-0565 (Online) Vol. 4, No.23.

Ofcom Children and Parents, media Use and Attitudes Report. (2015)
Available at: <https://www.ofcom.org.uk/research-and-data/multi-sector-research/cmr/cmr15> Accessed: 20 February 2020

Papert, S. (1991) *Situating constructionism*. In I. Harel & S. Papert (Eds). *Constructionism*. Norwood, NJ: Ablex Publishing Corporation

Piaget, J. (1970) *Logic and psychology*. NY: Basic Books

Playful Childhoods, (2018) Available at:
https://www.playfulchildhoods.wales/top-tips-for-screen-time?gclid=CjwKCAjwxqX4BRBhEiwAYtJX7YGvUrbibWD4_bXD5Yp-lyLoQaiQBlufJRSTbb29RDtQWcq2nbmxxoC6G4QAvD_BwE (Accessed: 11 July 2020)

PNG. (2020) *Foot PNG Icons*.
<https://www.pngrepo.com/vectors/foot/9> (Accessed: 2 February 2020)

Primary school management magazine. (2018) *Is your online safety policy due an overhaul?* Available at: <https://www.primaryleaders.com/school->

[procurement/school-internet/is-your-online-safety-policy-due-an-overhaul](#)
(Accessed: 2 February 2020)

Radesky, J, Miller, A, Rosenblum, K, Appugliese, D, Kaciroti, N, Lumeng, J. (2015) *Maternal mobile device use during a structured parent-child interaction task*. Acad Pediatr. 2015;15(2):238–244

Rahamin, L. (2004) *'From integration to inclusion: using ICT to support learners with special educational needs in the ordinary classroom'*. Maidenhead: Open University Press.

Standford, R et al. (2006) *Teaching with games: Using Commercial Off the Shelf Computer games in Formal Education*. Bristol: Futurelab.

Shams, L, and Seitz, A. (2008) "Benefits of multisensory learning." *Trends in cognitive sciences* 12.11 (2008): 411-417. Available at: <http://dx.doi.org/10.1016/j.tics.2008.07.006> Accessed: 3 February 2020)

Sharp, J, Byrne, J and Bowler, R. (2008) *'The trouble with VAK', Educational Futures*. Vol. 1(1). August 2008, 89-97.

Talking to your child about online safety (2020) Available at: <https://www.nspcc.org.uk/keeping-children-safe/online-safety/talking-child-online-safety/> (Accessed: 2 February 2020)

The Children's Commissioner's Office. (2020) *Digital 5 a day*. Available at: <https://www.childrenscommissioner.gov.uk/our-work/digital/5-a-day/> (Accessed: 24 February 2020)

The National Curriculum online (2000) Available at: https://dera.ioe.ac.uk/18150/7/QCA-99-457_Redacted.pdf

UNESCO, (2008) *ICT competency standard for teachers: competency standards modules*. Available at: <https://unesdoc.unesco.org/ark:/48223/pf0000156207> (Accessed: 2 February 2020)

UNICEF (2017) *The State of the World's Children 2017: Children in a Digital World*. Available at: https://www.unicef.org/publications/index_101992.html (Accessed: 20 June 2020)

United Nations Convention on the rights of the child. (2020) *Article 12 and Article 17*. Available at: <https://www.unicef.org.uk/what-we-do/un-convention-child-rights/> (Accessed: 4 March 2020)

Vaala S, Ly A, Levine M. (2015) *Getting a Read on the App Stores: A Market Scan and Analysis of Children's Literacy Apps*. New York: The Joan Ganz Cooney Center at Sesame Workshop. Available at <http://joanganzcooneycenter.org/publication/getting-a-read-on-the-app-stores-a-market-scan-and-analysis-of-childrens-literacy-apps/> (Accessed: 10 February 2020)

Van den Dool, P and Kirschner, P. (2003), 'Integrating the educative functions of information and communications technology (ICT) in teachers' and learners' toolboxes: a reflection on pedagogical benchmarks for ICT in teacher education'. *Technology, Pedagogy and Education*, Vol.12, No: 1, 161-179. Available at <http://www.informaworld.com/smpp/content~content=a751265721&db=all> (Accessed: 5 February 2020)

Vygotsky, L. (1978) *Mind in Society*. Cambridge, MA: Harvard University Press.

Warwick, P and Kershner, R. (2008) 'Primary Teachers' understanding of the interactive whiteboard as a tool for children's collaborative learning and knowledge-building.' *Learning, Media and Technology*, 33(4).

Welsh Government. (2016) *Digital Competence Framework guidance*. Available at : <https://ysgolgymlraegytrallwng.weebly.com/uploads/1/0/6/8/106852387/160831-dcf-guidance-en-v2.pdf> (Accessed: 10 February 2020)

Welsh Government (2008) *Digital Competence Framework*. Available at : [https://hwb.gov.wales/curriculum-for-wales-2008/digital-competence-framework-curriculum-for-wales-2008-version/framework/#eyJpIjpbeyJhIjoxfV0sImMiOlt7ImEiOiB9LHsiYSI6MH0seyJhIjowfSx7ImEiOiB9LHsiYSI6MH0seyJhIjoxfSx7ImEiOiB9LHsiYSI6MH0seyJhIjowfSx7ImEiOiB9LHsiYSI6MH0seyJhIjowfSx7ImEiOiB9LHsiYSI6MH0seyJhIjowfSx7ImEiOiB9LHsiYSI6MH1dfQ==](https://hwb.gov.wales/curriculum-for-wales-2008/digital-competence-framework-curriculum-for-wales-2008-version/framework/#eyJpIjpbeyJhIjoxfV0sImMiOlt7ImEiOiB9LHsiYSI6MH0seyJhIjowfSx7ImEiOiB9LHsiYSI6MH0seyJhIjoxfSx7ImEiOiB9LHsiYSI6MH0seyJhIjowfSx7ImEiOiB9LHsiYSI6MH0seyJhIjowfSx7ImEiOiB9LHsiYSI6MH1dfQ==) (Accessed: 10 February 2020)

