

Looking forward: A critical analysis of literacy, numeracy and digital competence as cross-curricular responsibilities in the evolving curriculum in Wales.

This essay will be a critical analysis of how literacy, numeracy and digital competence will become cross-curricular responsibilities in the new curriculum in Wales. this critical analysis is in response to the Welsh Government's (2019) expectation that the three competences will be embedded throughout the future curriculum. Donaldson (2015), believes that these competences should become cross-curricular responsibilities for all professionals that work with children. With this, children should develop high levels of competence in these areas which will allow them to develop these further with constant opportunities for this.

To make this critical analysis fair, there will be an extensive use of documents and view points from valid sources to aid any conclusions. These documents will be analysed and synthesised along with my own experiences of cross-curricular teaching to develop a conclusion further to decide what role literacy, numeracy and digital competence will play in the future curriculum in Wales.

For many years there have been arguments about whether or not schools should teach children using separate subjects or if they should be taught in a more holistic approach by combining subjects and disciplines together. Both Gardner (2004) and Hirsch (1999, 2007), are two professionals in the field of education that believe scholarly disciplines are one of the most important changes in education for long time. They believe that this change helps all human beings to understand and overcome issues in everyday life and that. Furthermore, in Gardner's (1999) earlier work he claims that these disciplines should be seen as tools which will help develop learning and understanding rather than them standing alone. Both theorists believe in keeping subject skills separate but also understand that in twenty-first-century education schools need to help develop the understanding of our several worlds in their pupils, which further supports Gardner's (1999) view of disciplines being used as tools.

Contrasting these views are the likes of Alexander (2010), Robinson (2001) and Wrigley et al., (2012). These writers argue that there should not be noticeable boundaries between subjects and rather there be a more blended curriculum. Abbs (2003), argues that by breaking down these barriers between subjects it allows for more creative opportunities and experiences for children. In line with this, RSA (2013) claim that a competencies-based curriculum would be more beneficial to

pupils. This view of the curriculum and subjects also lends itself to Welsh Government (2019), where literacy, numeracy and digital competence will be main focuses through the curriculum. RSA (2013) also state that curriculums created around their 'Open Minds' approach are based around five competences, one being citizenship. This one competence is incorporated as one of Donaldson's (2015) four purposes. With this evidence, it seems as though this approach is becoming far more popular in recent times. Another contention for removing subjects as singular objects is that there are more opportunities for creativity and play (Goouch and Powell, 2013). At present, the way a school teaches its pupils is a more traditional method with a rigid curriculum (Alexander, 2010), which can hinder a children's creativity (Robinson, 2007). Montessori schools around the world have been able to create a curriculum and school environment around play and experiences to help develop children's intellectual, emotional and social skills in a way that is different to most modern day schooling systems (Marshall, 2017). Although, there are other professionals who share the same view that the curriculum should follow a stronger value and more emotionally adept approach (Booth and Ainscow, 2011; Morris and Scott, 2002). For a curriculum to have these qualities they argue for a more inclusive and cross-curricular response for changes in the future of education.

Literacy and numeracy have been a major part of the curriculum for a significant amount of time and are still seen as fundamental elements moving forward (Donaldson, 2015). So much so, that the Welsh government went on to create the Literacy and Numeracy Framework (LNF) in 2008 as a guideline for the most important skills in literacy and numeracy. With a new draft curriculum in place, digital competence will now become a cross-curricular responsibility alongside literacy and numeracy. These three responsibilities will be known as the foundations to success in earning and life, which will help aid in connected and creative learning (Welsh Government, 2018). It has been recognised by professionals that have contributed to creating the new curriculum that technology is developing at such a rapid pace that the digital competency framework was the first element to be introduced.

For the three competences to be embedded in to the curriculum effectively, teachers of the future must acquire a sound subject knowledge to be able to teach them in a cross-curricular manner. When teaching in a cross-curricular way, it is natural for links to be made to literacy in most subjects and lessons. CPR (2014) and Ball and Bass (2000) explain that if teachers are able to value subject knowledge and convey the value of it to their pupils then they will be able to excite the

imagination and provoke dialogue. This alone is one part of cross-curricular teaching that allows for literacy to fall in to place without it having to be forced in to every lesson.

With digital competence becoming a cross-curricular responsibility in the new curriculum there will be more reliance on newly trained teachers in schools. Newly trained teachers will have the most up to date training in technology which can help the older generation of teachers. Barnes (2015) expresses, that teachers should be capable of sharing knowledge with their colleagues. This is further supported by social constructivist Vygotsky (1962), who created the theory of the more knowledgeable other. This refers to an individual who has greater knowledge in a certain area or specific subject. From personal experience it has been found that there are practitioners throughout schools with different strengths in knowledge. There have been instances witnessed, while on PTE, where the maths co-ordinator would help plan a lesson so that the class teacher is able to optimise of numeracy used within the lesson. On the other hand, it has also been observed that some teachers become reliant on others professionals to take certain subjects that the class teacher is not as confident with. This can be a negative of using cross-curricular teaching in some subjects because a teacher that always gets another to take their place will never be able to improve their own skill or knowledge in that subject. Although, an argument for this would be that the children are benefitting from a more knowledgeable other teaching them a certain subject instead of the class teacher. This is because the children will be getting taught by a professional that specialises in that subject.

It was recognised in 2013, that a digital competence framework needed to be created that had the same standing as the Literacy and Numeracy Framework (Arthur, Crick & Hayward, 2013). For digital competence to become a cross-curricular responsibility, there needs to be effective and sufficient training to all teachers in Wales Estyn (2018). One initiative created by Welsh Government (2017a), to help prepare teachers for digital competence was a plan to expand code clubs throughout Wales. One reason this was created was to increase the confidence levels in teachers and also to help develop learners from basic to more advanced programmes. To further the understanding of digital competence as a cross-curricular responsibility for practitioners and educational professionals, Welsh Government (2017b) created a document that sets a time frame for the creation of a successful education system. Some of the main focuses of digital competence in this document are; to ensure all learners have high-level digital skills, support educational professionals to use relevant technologies. Within this evolving curriculum these are just two aims that are central to the mission set out by Welsh Government (2017b).

Linked to this there are already good practices of using digital competence in a cross-curricular fashion that have benefited schools. Estyn (2019) recorded that Ysgol Gynradd Mynach were able to give pupils the opportunity to use skills they had learned in real-life situations. The report goes on to say that effectiveness of provisions concerning digital competence played a vital role in developing the independence of all pupils. This growing independence of pupils links to Donaldson's (2015) recommendations, where learners should be able to undertake more independent learning. As the before mentioned good practice of digital competence portrays, in terms of it as being a cross-curricular responsibility, it is able to benefit not only the teacher but also the learner. If the provision is effective then it will have a greater impact on pupils' learning. From personal experience, it has been observed that pupils are able to develop their literacy skills through the help of technology such as computers and laptops. If children are trained sufficiently to use these technologies it can pay dividends. One observation made was a pupil using a thesaurus online to help them develop and extend their vocabulary. It can be said that this may make some children lazy as they should use an actual thesaurus but currently, in the climate of technology, this is the direction the world of education seem to be going.

Literacy and numeracy are still recognised as elements that are largely influential throughout the curriculum in Wales. A recent statistic from Welsh Government (2019b), shows that 67.8 percent of children scored between 85 and 115 in the National Reading Test - age-standardised scores. Whereas, the statistics for the same test from Welsh Government (2018) was 66.8 percent, which shows an increase of 1 percent. Even though this seems positive, it is apparent that from these two documents that the extra 1 percent has actually come from the children who scored greater than 115. There is actually a decrease of 1.3 percent of pupils scoring greater than 115 from 2018 to 2019. This alone could be one reason why there is an even greater emphasis on literacy as a cross-curricular responsibility. After observing these statistics from Welsh Government (2019), it is clear to see there is a great disparity between the percentages of girls scoring between 85 and 115 and the amount of boys doing the same in the National Reading Test. This may be why Donaldson (2015), has proposed Welsh Government should be informed of achievement by a rolling programme of sample testing and also by Estyn. If that is the case, literacy should be seen as a cross-curricular responsibility in the future.

To summarise, it is made apparent, in a majority of pieces of literature that have been analysed, that literacy, numeracy and digital competence are all suitable cross-curricular responsibilities for the new curriculum because of the way not only education is heading in the future but also the world. With a world moving so quickly in terms of technology, it makes sense that digital competence has been made a foundation for success (Welsh Government, 2018). It also correlates positively as to why the Digital Competence Framework was the first element to be created in the new curriculum and as previously mentioned it will now stand alongside the Literacy and Numeracy Framework (Arthur, Crick & Hayward). These three responsibilities will now be embedded throughout the curriculum to create a more modern education system.

One recommendation would be that teachers should read and understand both the Literacy and Numeracy Framework and the Digital Competence Framework so that they are able to try and implement all responsibilities in to their lessons. As Barnes (2015) explains, it is vitally important that teachers have a good foundation of subject knowledge. As well as teachers implementing the responsibilities in to each of their lessons, it also means that the learners benefit from a solid understanding of them. By having an effective use of cross-curricular responsibilities it allows children to develop holistically and to help prepare them for the future.

A recommendation to schools would be to try and foster independent learning in all children in relation to digital competence. Not only does this link to one of Donaldson's (2015) recommendations, it also links to the view of Estyn (2019) where a case study of good practice was observed from the named primary school. In a new curriculum, giving children the opportunity to become more independent will not only prepare them for education in the future but also in life.

On a personal level, I feel that an area that I could improve on is my inclusion of digital competence when planning a lesson. In the past it has been evident that I have either not used enough digital competence in a lesson or I have used it as more of a token gesture to be able to say that I have used it. As digital competence is at the heart of the new curriculum, I will endeavour to make sure that I am using it in an effective manner as the evidence from literature that has been analysed, shows evidence, that effective use of technology can benefit children. By making digital competence a focus in my lesson it will also support me in my future as a professional in the world of education. This target has been made in line with the Welsh Government's (2009) QTS standards, so that I will be able to keep track on my progress in the future. As well as this being a main target, I will be sure

to constantly improve on my knowledge and understanding of the different subjects in the curriculum (Welsh Government, 2009). With this, I hope to gain a better understanding of the new Digital Competence Framework so that I am able to prepare all learners for their lives in the future.

Reference List

Abbs, P (2003) *Against the Flow*. London: Routledge.

Alexander, R (2010) *Children, Their World, Their Education: The Report of the Cambridge Primary Review*. London: Routledge.

Arthur, S., Crick, T., & Hayward, J. (2013) *The ICT Steering Group's Report to the Welsh Government*. Cardiff: Welsh Government. [Online]. Available at: <http://learning.gov.wales/docs/learningwales/publications/131003-ict-steering-group-report-en.pdf> (Accessed 6 December 2019).

Barnes, J (2015) *Cross-curricular Learning 3-14*. 3rd ed. London: SAGE.

Ball, D., & Bass, H (2000) *Interweaving Content and Pedagogy in Teaching and Learning to Teach: Knowing and Using Mathematics*. In J. Boaler (Ed.), *Multiple Perspectives on the Teaching and Learning of Mathematics*. Westport, CT: Ablex.

Booth, T and Ainscow, M (2011) *Index for Inclusion*. Bristol: Centre for Research in Inclusive Education.

CPR (Cambridge Primary Review/Pearson) (2014) *Primary Curriculum: Developing an Outstanding Curriculum in Your School* (conference materials). Cambridge: CPR Press

Donaldson, G (2015) *Successful Futures*. Cardiff: Crown.

Estyn (2018) *Preparing for the Digital Competence Framework (DCF)*. Cardiff: Crown Copyright 2018.

Estyn (2019) *Enabling Pupils to Become Independent Learners*. Cardiff: Crown Copyright 2019.

Gardner, H (1999) *The Disciplined Mind: What All Students Should Understand*. New York: Simon Schuster.

Gardner, H (2004) *Changing minds: The art and science of changing our own and other people's minds*. Boston, MA: Harvard Business School.

Goouch, K. and Powell, S (2013) *The Baby Room*. London: Routledge.

Hirsch, E (1999) *The Schools We Need: And Why We Don't Have Them*. New York: Anchor.

Hirsch, E (2007) *The Knowledge Deficit: Closing the Shocking Education Gap for American Children*. New York: Houghton Mifflin Harcourt.

Marshall, C. (2017). Montessori Education: A Review of the Evidence Base. *npj Science of Learning*, 2(1).

Morris, E. and Scott, C (2002) *Whole School Emotional Literacy Indicator*. Frampton on Severn: School of Emotional Literacy Press.

Robinson, K (2001) *Put of Our Minds*. London: Capstone.

RSA (2013) *Opening Minds Curriculum*. Available at: www.rsaopeningminds.org.uk/ (Accessed: 1 December 2019).

TED (2007) *Do School Kill Creativity?*. [video] Available at: <https://www.youtube.com/watch?v=iG9CE55wbtY> (Accessed: 2 December 2019).

The National Academies of Sciences, Engineering, and Medicine (2016) *Child Development and Early Learning: A Foundation for Professional Knowledge and Competencies*. Foundation for Child Development.

Vygotsky, L. S (1962) *Thought and language*. Cambridge MA: MIT Press.

Welsh Government (2009) QUALIFIED TEACHER STATUS STANDARDS WALES 2009. Cardiff: Crown.

Welsh Government (2017a) Cracking the Code: A Plan to Expand Code Clubs in Every Part of Wales. Cardiff: Welsh Government. [Online]. Available at: <http://learning.gov.wales/docs/learningwales/publications/170616-cracking-the-code-a-plan-to-expand-code-clubs-in-every-part-of-wales-en.pdf> (Accessed: 6 December 2019)

Welsh Government (2017b) Education in Wales: Our national mission. Action plan 2017-21. Cardiff: Welsh Government. [Online]. Available at: <http://gov.wales/docs/dcells/publications/170926-education-in-wales-en.pdf> (Accessed 6 December 2019)

Welsh Government (2018) A New Curriculum for Wales [video]. Available at: https://www.youtube.com/watch?time_continue=120&v=9U0fsT0gH7U&feature=emb_logo (Accessed: 2 December 2019).

Welsh Government (2019) A Guide To The Curriculum for Wales 2022. Cardiff: Crown Copyright 2019.

Welsh Government (2019b) National Reading and Numeracy Test Results: 2019. Available at: <https://gov.wales/sites/default/files/statistics-and-research/2019-08/national-reading-and-numeracy-test-results-2019-083.pdf> (Accessed: 5 December 2019).

Wrigley, T., Thompson, P. and Lingard, B (2012) Changing Schools: Alternative Ways to Make a World of Difference. London: Routledge.