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**Module – Cross Curricular Responsibilities:
Literacy, Numeracy and Digital Competence**

**Assignment Title: A critical analysis of
literacy, numeracy digital competence as
cross- curricular responsibilities.**

This essay, will discuss the importance of teaching numeracy, literacy and digital competency in a cross-curricular way of teaching. In addition, it will consider the expectation of the Welsh Government's perspective of cross-curricular responsibilities in relation to the new curriculum in Wales. The essay will discuss the benefits and limitations of teaching cross curricular, there will be clear and justified conclusions including personal targets and recommendations for the Welsh Government to consider putting into place in the new curriculum teaching in Wales.

'The world beyond the classroom is cross-curricular' (Barnes, 2011, p.260). Current and future teachers may choose to follow this pedagogical approach of cross-curricular, throughout their professional teaching career, to enhance and develop children's learning and development. Secondly Barnes (2015) also suggests that cross-curricular learning is looking further than the classroom; it develops a deeper understanding of the subject that is being taught, allows opportunities to link with objects and places, provides real life experiences that help learners make links between subjects. When teaching in a cross curricular way, teachers need to make connections with subjects to build and enhance the children's knowledge, while teaching them how to transfer a set of skills from one subjects to another. One pedagogical approach from the teaching standards Wales as founded by Welsh Government (2019, p30) 'Planned learning exploits subject disciplines using real-life applications across the four purposes.'

According to Barnes (2011) the approach of teaching cross curricular has been around for many years, the philosopher Plato express that making connections with practical, psychological and emotional skills is very important for future development. There are many educational philosophers who encourage the importance of teaching in a cross curricular way such as Socrates and Aristotle (no date, cited in Roy, 2016) who have considered educators and learners were polymaths, for example people who have a lot of knowledge in many subject areas; these people are able to share their knowledge and intertwine the learning through other subjects.

Rudolf Steiner's educational method in cross curricular teaching is to emphasis learning through creativity and real life experiences according to Mazzone (1999). Steiner Waldorf Schools Fellowship noted that (2019) it is not simply teaching subjects but integrating maths, literacy and digital competency throughout the other subjects; Steiner school's curriculum has an emphasis on giving equal amount of time to academic learning and the well-being and spiritual needs of the children. According to Kaldi, Filippatou and Govaris (2011, p.37) teaching in a cross curricular method is seen to 'Develop a love of learning and an enthusiasm for school'. This statement is supported by Raising Children Network (2019) who are a network of organisations who suggest that children and young adults have a higher rate of learning through exploring the environment, that they are currently in; Children carry out experiments and ask question in relation to their learning and through observing of other and imitating them.

Although on the other hand there is evidence out there that shows that teaching cross-curricular learning can have its limitations to the way children learn and develop. Barnes and Shirley (2007) have considered that many current and future teaching professionals have had very little background knowledge of teacher or learning in a cross curricular environment, either as pupils or in their training. Darling-Hammond et al., expressed (2019) that children need to know why they are learning something in order for them to feel in engaged, they can also start to take ownership of their own learning if they feel motivated to learn. Marchant et al., (2019) examined that for current and trainee teachers who may lack knowledge of cross curricular it is been suggested that they make the lessons they teach interesting for the children to ensure that they motivate and engage them in their learning. Looking back at personal experience during placement I noticed when I planned a lesson that the children found interesting and had a hook at the beginning of the lesson such as in reception. Betsy the mouse had wrote a letter to the children asking for help, the children really wanted to do the task that were set for them as they thought they were helping Betsy and not doing work for the teacher, I found it was much easier to teach in a cross curricular way in Foundation Phase then I did in Key Stage 2 as the classroom layout allowed the children to go off in a carousel of lessons including the three cross curricular responsibilities.

Currently in Wales there is new curriculum coming into practice in 2022. Many pioneer schools are currently working on implementing part of the new curriculum now this is stated by A new curriculum for Wales (2018). Currently many schools still use the National Curriculum for Wales, Welsh Government (2015, p.8) have proposed that schools ‘...must complement each other and work together to provide a cross-curricular approach to form a practical relevant curriculum.’ Professor Graham Donaldson designed the document ‘Successful Futures’ which is what the new curriculum is being based upon. Donaldson (2015) proposed that the curriculum will focus on four main purpose; these purposes are there for children to aspire to and aim for in the future. Donaldson mentions that new curriculum in Wales should allow children in the future to develop into:

- Ambitious, capable learners,
- Enterprising, creative contributors,
- Ethical, informed citizens
- Healthy, confident individuals.

As cited in Barnes (2015).

Subsequently Google Education (2019) have established that children will be involved in their wider community which will prepare them for their future in the world after education. The local consortium where I did placement emphasised the importance of ‘Successful Futures’, and the lessons being cross-curricular. I noticed that this way of teaching enabled the children to stay focused on their work for a longer period of time. Evidence to support cross curricular learning is Barnes who mentions that (2015 p.245) ‘cross curricular learning is a powerful way to generate creative thinking’. On the other hand, Educational through Regional Working (ERW, 2019) that suggest ‘12 pedagogical principles identified by Successful Futures are essential to good teaching and learning.’

Recently the new draft curriculum has been published; there will be changes made based upon feedback in the document ‘The White Paper’ sets out the new proposals for

the new curriculum where questions 1-21 were raised and re-drafted in more detail as found by the Department for Education (2016) One of the comments that the Welsh Government (2019, p.68) made were supporting ‘...a learner-centred approach to teaching and learning, allowing teachers more freedom to teach creatively in a cross-curricular way’. Department for Children, Schools and Families (2009) discussed the ‘White Paper’ in detail noting that schools have to provide a wider and more equally weighted curriculum; while ensuring that learning is cross curricular and includes the six Areas of Learning and Experience (AOLE). Additionally, Languages, Literacy and Communication, (2019) discusses that subjects such as Welsh, religious education (RE), English and personal and social education and the three cross-curricular responsibilities of numeracy, digital competency and literacy must be an integral part of these AOLE’s. Furthermore, Welsh Government, (2019) mention that the cross-curricular responsibilities will enable the learning for children and help them to participate and work in the modern world later on their life. Taguma, Feron and Hwee, (2018) recommend teachers implement the children’s learning to meet the AOLE’s criteria which will include the cross-curricular responsibilities; the skills the children have learnt can be transferred easily from on one AOLE to another. Although on the other hand Cosslett (2017) states otherwise discussing that cross-curricular responsibilities should only be in the lesson/activity if appropriate not just given a nod to. Too much information in an activity can lead to the child not learning anything as they are simply confused.

Estyn (2019) specify the best primary teaching practice in Wales should include:

- A high quality of teaching
- Teachers subject knowledge
- Effective teaching of cross-curricular responsibilities.

Giving children the tools and skills to succeed in the future.

The above statement by Estyn emphasis cross-curricular learning as an essential part of most activities and lessons in school. Estyn inspections of schools in Wales ensure that schools are doing their duty in giving the children the best possible education disclosed by the Care Inspectorate Wales (CIW), (2019). Using a website 'My Local School (2019) they showed a local school in Swansea who had excellent ratings by Estyn in their most recent report. The school ensured that their teaching is excellent as in the most recent report by Estyn (2017) they evidence that many of the teachers see opportunities to develop their students learning of literacy, numeracy and digital competency skills across the curriculum. Ofsted another inspectorate (2010) agrees with Estyn as they found students who have a broad range of lessons while integrating the three cross-curricular responsibilities, tend to achieve more; while teachers ensure the children use the skills in other areas of their learning. The lesson planned motivate and enthuse the children to keep learning and developing their education independently. On the other hand, some schools in Wales do not have such good practice. As found on Estyn (2016) one local school under the same consortium received a letter stating the school need to be monitored and there need to be sufficient improvement this particular school the found some schools fall into the red category which means they need support from Estyn to improve standards.

Although Wightwick mentions (2019) many schools in Wales are doing well. Wales Online news published '88.4 per cent of primary schools are now in the green and yellow categories compared to 85.3% last year.' This supported by recent Pisa results found on Wales Online (2019) which show that Wales has made a small improvement on raising attainment and closing the performance gap between children who have free meals and those children who come from more affluent home lives.

Arthur and Cremin (2018) have discussed teacher subject knowledge is very important when educating children. As a future teaching practitioner, I am always looking to improve my knowledge and keep up to date with current legislation, new curriculum and also the current and new qualified teaching standards (QTS). Welsh Government (2019, p.39) suggests that 'The teacher, understands and engages with the principles of curriculum design and innovation, with development of cross-curricular themes relevant to areas of learning and justifies decisions.' The QTS draft documents discuss the use of teaching in cross-curricular themes. Coombs et al., (2018) acknowledge the draft document by mentioning that teachers should show recent knowledge and understanding of disciplines and pedagogies, while making connections in other subjects to make the learning cross-curricular. However, there is further evidence to show the importance of teaching standards, to ensure children have a high quality of education as Didau (2014, p.13) noted that

'In the Teachers' Standards, it states that all teachers must demonstrate an understanding of, and take responsibility for, promoting high standards of literacy, articulacy, and the correct use of standard English, whatever the teacher's specialist subject.'

Keeping up to date with new technology can be difficult as technology moves at a rapid speed, with things changing so frequently as Berman and Dorrier (2016, cited in Kurzweil, 2005). To improve my knowledge, I used a website called the 'Digital Competence Wheel' it is an online test to see how much knowledge you have. It gives you some ideas on where you need to improve your knowledge as a teacher. The website also gives you recommendations for improvement. The wheel showed that I personally need to improve my online critical evaluation skills which states it is the ability to

'Ability to process, understand and critically evaluate digital information when sent and received' (Skov, 2019)

There are issues with digital competency in schools and how best to approach this area of learning while linking it to other subjects. With the new curriculum coming in, it will

become easier for children who do not have technology outside of schools to access the curriculum as the new the digital competence framework is not all about using technology. For example, according to BBC News (2016) the new curriculum discusses higher order thinking such as computational thinking which itself can be met by using paper. This idea is supported by Timbrell (2017) who suggest that teachers and children to not need technology to meet requirement for the new curriculum. On the other hand, a school case study by Estyn (2018) have shown in their school they believe 'digital citizenship sits at the heart of embedding digital technology into school life.' Additionally, Edwards (2019) recommends the school to help support their pupils, parents, staff, governors and people in the wider community to use technology as way of communicating, in a responsible and safe manner.

Looking at literacy and numeracy for most children these areas of learning can seem boring and disengaging, but as teacher it is there job to make learning interesting and engaging this is discussed by Bowater (2012). Alexander (2008) explains teachers now need to plan cross-curricular using the Literacy and Numeracy Framework (LNF) and Digital Competency Framework (DCF) while make connections with other areas of learning such as history or geography, so children will be more engaged when they are learning. In my opinion Sometime they do not even realise they are doing numeracy and literacy. In addition to Alexander, Pimley (2011) also discuss a similar point where there many opportunities to intertwine literacy and numeracy across the curriculum, he suggests teachers plan for effective use of the cross-curricular responsibilities in every part, although this method of teaching can be more time consuming. Teachers need to follow the current curriculum and use the frameworks as guidelines for the children's learning and development. The Welsh Government (2015, p.6) published the LNF for Foundation Phase (FP) which states that 'A statutory National Literacy and Numeracy Framework (LNF) has been developed to support practitioners and teachers to embed literacy and numeracy across the curriculum'.

Haylock and Thangta (2007) note other ways of considering cross-curricular teaching and learning in numeracy. Some of the ways they note are:

- Some areas of the curriculum can be used to show a different context of teaching numeracy by adding numeracy into another lesson, this way children do not see they are simply doing maths.
- Numeracy, Literacy and Digital Competency can be seen to be put in to a project based learning (PBL) lesson where children can show and apply the skills they have learnt independently.

This type of learning such as PBL is very cross-curricular as children are applying prior knowledge of skills to a new topic. This relates to the new Donaldson curriculum effectively. As he discusses the benefits of PBL in the 'Successful Futures' document Donaldson (2015, p.91) states that 'The projects could be based on a range of interesting topics that develop different skills and subject areas', for example on topics such as sustainability and innovation. Based on my own experience of placement the school I was in had a resource called 'Cornerstones' which is based around the ideas of PBL. Pudner (2018) discusses that the Cornerstones resources are used for planning as it has many classroom and lesson ideas for teaching the cross-curricular responsibilities. As a future practitioner, I found the resource very helpful but I could see if the teachers had to follow it rigidly I feel how it could impair with teacher creativity. Furthermore, the importance of every teacher's job is to ensure that children learn and develop efficiently. Finally, Kyriacou believes (1997) 'The relationship between teacher and pupils is of fundamental importance to effective teaching.' Prozesky (2000) made an equally important point as he discussed that teachers need to be effective communicators and try reduce the limitations that may occur; teachers need to be caring, understanding and have patience with children, this is important for children to feel like they can trust the teacher.

If the children have any problems they need to feel comfortable to approach the teacher for support. Teachers with this philosophy will help children to learn as they will help the children and prepare for the teaching and learning by providing using the resources to support their learning. While having the patience to push their learning forward and develop their numeracy skills this is brought forward by Askew (2011)

To conclude this essay there is more evidence to show that cross-curricular learning benefits the children and the teacher, as children learning the three cross-curricular responsibilities within other subjects as mentioned earlier keeping children engaged and more focused on the learning if they are interested in the activities. Cross-curricular learning can have its difficulties as planning is more time consuming for teachers but the result on children's achievement make up for it. Evidence has shown that some responsibilities are easier to put into lessons than others such as literacy as it naturally blends itself into learning. On the other hand, research showed that digital competence is harder to put into lessons as discussed earlier some schools and parents do not have money to buy resources, which again makes it harder for these children to reach the curriculum.

(Word Count 2,608 without quotes)

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