

Looking Forward: A critical Analysis of literacy, numeracy and digital competence as cross curricular responsibilities.

Successful Futures (2015) recommends that literacy, numeracy and digital competence needs to be embedded throughout the curriculum in a cross curricular way to ensure that the learners have a high competence in these areas. These areas should be cross curricular and taught through real life scenarios and frequent opportunities to enable the learners to make connections, develop their understanding, extend and deepen their knowledge.

Through personal experiences cross curricular teaching has been introduced by some practitioners, however it has been seen to be used in a tokenistic way. Barnes (2011) has introduced models to aid the understanding of teaching in a cross curricular manner. It appears that to teach through a cross curricular method effectively you need to ensure that each area of learning (AoLE) is given equal weight or able to support the main AoLE being taught. It is important that when practitioners teach through a cross curricular method that they do so in a way that enables the learners to learn and develop their knowledge across the subjects that are being taught. This will enable the learners to make connections between the subjects and real life situations (Barnes, 2011). Barnes has identified five models of cross curricular teaching. Through the essay it will be discussed as to which model best suits the introduction of the new curriculum in Wales and what has been seen on personal experiences.

Cross curricular teaching is not a new idea and has been suggested by many theorists in the past such as Dewey (1897) with the constructivist theory, that it is an effective way of teaching. This idea of teaching consists of the learner developing knowledge of the world around them and linking their newly acquired knowledge to prior knowledge Hein (1991).

Within schools it is seen that practitioners are embracing the cross curricular way of teaching however sometimes it is of little use to the learner as the links can be tenuous. Whilst on teaching practice the main way of teaching in a cross curricular way was the thematic approach, however the different subjects could be identified and in the main were taught in a hierarchical or tokenistic way. Hierarchical being one subject being taught in the main with a second subject that is touched upon and tokenistic being a subject being taught and another linked to the theme but the learners do not learn anything about the other subject being introduced. (Barnes, 2011). During the essay it will be discussed how the thematic model was used during teaching practice and the benefits and limitations of this method.

Whilst on teaching practice in a year one class the theme for the one of the weeks was The Chinese New Year. One of the skills that was taught was ordinal numbers, this was an idea opportunity for the children to learn a skill through mathematics while helping with their oracy and listening skills within the literacy curriculum (DCells, 2015). These ordinal number skills were then transferred into real life skills and the children conducted their own race and were able to identify the ordinal numbers of the runners, this allowed the children to understand how this skill can be used in different contexts. The oracy and listening skills were developed through group discussion and collaboration. The children were able to enhance their digital skills through ordinal number games on the computer, developing their skills. The children felt confident to answer questions, take turns and ask relevant questions and some children made connections to their own experiences which has been suggested to be the way we should be teaching children (Grigg, 2015).

In the main the practitioners concentrated on mathematics and literacy in the mornings with a thematic approach in the afternoon, however the prior learning from the morning sessions were not always consolidated in the afternoon sessions. This method of teaching reflects what the Rose Report (2009) suggested, that some subjects need to be taught explicitly with others being taught with a thematic approach. Since the introduction of the Literacy and Numeracy framework in 2014 teachers and practitioners have put more emphasis on the teaching of literacy and numeracy as stand-alone subjects however Donaldson (2015) argues that these subjects can be taught effectively through a cross curricular model. Ofsted (2010) agree that creative cross curricular teaching could enhance the learning without detracting from individual subjects.

Mathematics can be taught through the delivery of other subjects such as knowledge and understanding of the world. This was demonstrated on teaching practice through the use of grid referencing the schools local park and the digital competence framework was also introduced at this point through the use of coding a beebot. This gave the learners concrete experiential learning and consolidated what had been learnt in the grid referencing lesson. The learners were engaged and asking questions to further deepen their knowledge, the learners chose the area that they wanted to grid reference and learnt about the locality in the process. Grigg (2015) and Donaldson (2015) suggest that this is the best way that children learn. Askew (2011) suggests that the learners engaging in more problem solving to deepen their understanding of mathematics. Through problem solving the learners have to ask questions, find an answer of which there are usually more than one answer. It allows for the

learner to become more capable of deciphering problems that they will come across in the future. It prepares them for the real world. This is emulated in the Donaldson Review (2015). It is argued by Heibert (2003) that the mathematical processes need to be taught explicitly before consolidating the learning through cross curricular teaching, McAteer (2013) also believes in this method also. Due to the fact that mathematics does require the knowledge of processes prior to being able to apply that knowledge in other field. In many schools mathematics is taught as a separate subject ensuring that the learners are confident in the methods and procedures. It has not been seen as often to be consolidated in a cross curricular teaching method. I felt that through the introduction of the grid referencing of their local area they learnt about what was there before the park was built enhancing their knowledge of the locality which is part of the Curriculwm Cymreig, the grid referencing was a skill that needed to be developed within the foundation phase framework and the coding allowed for the children to develop their skills within the digital competence framework. (DceLLs 2015).

Digital competence is an area that Donaldson (2015) wants it to be integrated throughout the curriculum wherever possible to aid progression in the digital world and prepare them to be contributing members of society. Teaching with technology can be an engaging way to teach and allow excitement to lead the learning. Bird (2014) suggests that allowing the learning to use a device to create a story board or to retell a story can focus the learners learning through time limits and limited amount of space, this will enable the children to make more informed decisions, considering carefully the content they wish to include which will deepen the thinking process. Bird (2014) believes that technology is an engaging way to teach however it should not be over used to the detriment of the subject that is being taught. Caldwell & Bird (2015) suggests that using devices can allow for deeper learning through problem solving programmes, coding, writing, sequencing and puzzle like apps. This engages the children and promotes enthusiasm within the classroom and more willingness to learn. Children have access to devices on a daily basis in these times and if as a teacher we can aid the learners learning through the use of these then we should use where appropriate any aid that we have available. Whilst on teaching practice one Ipads and laptops were used on a daily basis and the learners understood and could carry out varied tasks within prescribed programmes to consolidate learning and deepen their understanding. On teaching practice two the children only had access to the tablets or laptops once a fortnight and there were not enough for each child to have a device. These children were less able to complete simple tasks such as logging into their HWB accounts. It is evident in a digital world that these skills need to be developed

in order for the learners to progress within the school system and in later life (Donaldson, 2015). It has been seen in schools that devices are used to tick a box without developing skills in the curriculum. Digital devices should be used in a meaningful way that will engage the learner and develop skills (Caldwell & Bird, 2015). Grigg (2015) suggests that having ownership of a device is imperative to the development of the skills set out in the lesson plan. Planning is key when teaching in a cross curricular way, it is essential that the teacher ensures that the skills that are required to be taught are being taught in a meaningful way in order to develop the learners progression. (BESA, 2012). There are many educational applications that can aid all areas of the foundation phase and used in an appropriate way can develop the learners skills.

When on placement the children were told a story about the Chinese New Year, this aided the development of skills throughout the foundation phase framework. Their literacy was developed through sequencing and retelling the story. We used ordinal numbers to see who won the race this promoted oracy and listening skills as well as the mathematical skills. The learners had the opportunity to create their own blossom trees, lanterns and money envelopes which incorporated measuring of the materials, choosing different materials and experimenting with colour and textures. The children were fully engaged and enjoyed the learning developing their skills. The children created their own dragon dance and performed it to their peers. This was a thematic approach and it worked effectively. The children developed their fine and gross motor skills during the more creative tasks. The foundation phase framework lends itself well to cross curricular teaching.

Literacy can be taught in a cross curricular way using a thematic or multidisciplinary approach (Barnes, 2015). Learners who read show an increased level of attainment (DFE, 2012). Didau (2014) explains that language is not an extra part of teaching but it is a teachers' job to ensure her learners are able to read write and communicate effectively. This should not be taught implicitly and we as practitioners need to learn how to teach what we know and want to impart on our learners explicitly. Questioning is an important part of developing language and the learners understanding (Didau, 2014). Developing the learners language will enable them to read and in turn write with more confidence and accuracy. Linking literacy to a theme can engage the children and enthuse them to want to learn more (Grigg, 2015). A good level of language has shown to raise attainment, improving behaviour and narrowing the gap. To ensure that the learners have a good level of language there are many methods to engage the children, there is digital technology, personal and social skills,

physical and creative development and knowledge and understanding of the world. The use of a cross curricular approach is ideal as language can be developed throughout the foundation phase framework. The learners gain knowledge of different types of language and what language is appropriate. Writing and reading skills can be developed through the use of digital devices, books, modelling, handwriting and retelling (Gross, 2013).

Currently there are many practitioners who are teaching in a tokenistic cross curricular way. This will need to be addressed when the new curriculum is introduced as Donaldson (2015) suggests that the areas of learning are taught linking together in order for the learners to make connections, engage in concrete experiences and link to real life, prior knowledge or experiences. There are arguments that mathematics and literacy should be taught as stand alone subject in order for the processes, phonics and skills can be developed to a greater standard (Fox, 2003). The new curriculum will enable the practitioner to allow the children to have ownership of their learning, it will integrate the areas of learning in order for links to be made, the learners will be more engaged with topics that they wish to learn about, real life situations, problem solving and experiential learning which will develop the skills of the learner and deepen their knowledge and understanding. Cross curricular teaching has been endorsed by many writers such as Barnes, Grigg and Donaldson to name a few. Savage (2010) and Kerry (2015) suggest that teaching in a cross curricular way can deepen knowledge and understanding. They suggest that the key skills are embedded in the learning and consolidated at many points. As a newly qualified teacher I hope to ensure that I teach in a cross curricular way incorporating a thematic or multidisciplinary approach where possible, and ensuring that the learning is meaningful. I hope to develop these skills through further reading and practice. My goal as a teacher is to ensure that I am the best teacher I can be and impart knowledge and skills to my learners enabling them to be the people they want to be. Being a teacher is a rewarding career and to inspire and guide these young minds to greatness will be an honour and privilege whilst embracing the changes to come.

<http://learning.gov.wales/resources/browse-all/digital-competence-framework/?lang=en> (last accessed 12/12/18).

<https://www.gov.uk/government/publications/teachers-standards> Last accessed (12/12/18)

<http://www.show-me-wow.com/a-thematic-approach/> (last accessed 12/12/18)

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