

Looking forward: A critical analysis of literacy, numeracy and digital competence as cross curricular responsibilities

Introduction

Cross curricular learning is part of a prominent discussion within education currently, and there is a substantial amount of debate and discussion around the use of cross curricular learning and the benefits and limitations that accompany the implementation of a cross curricular approach to learning. Within this critical analysis the benefits and limitations for literacy, numeracy and digital competence being developed in a cross curricular approach will be considered alongside the current position of education in Wales. Initially it is important to discuss what cross curricular learning is. Savage (2011, quoted in Fautley and Savage, 2011, p.1) suggests that 'a cross-curricular approach to teaching is characterised by sensitivity towards, and a synthesis of, knowledge, skills and understandings from various subject areas' indicating that cross curricular learning can be adapted into many forms.

It is important to first inquire why we should consider using a cross curricular approach, specifically with literacy, numeracy and digital competence. It is identified by Soffel (2016), that literacy, numeracy and also ICT literacy are seen as essential 21st century skills that allow children to tackle everyday tasks. This supports a clear argument for these essential skills to be addressed in a cross curricular manner within education so they can be developed in various areas and opportunities. Furthermore, it is stated by Medwell (2018, p.160), that Ofsted categorise an outstanding teacher as someone who has planning which is detailed and also has a good understanding of subject knowledge and has good cross curricular links, indicating cross curricular provision is vital within the teaching profession. It is also discussed by Haylock and Thangata (2007, pp.48-49), that learning in a cross curricular format can allow for the introduction of new concepts, the application of concepts in other areas and also extended projects that incorporate various different elements of subjects in one learning experience. This will be important to consider when addressing benefits and limitations for cross curricular learning as the discussion continues.

Main Body

Barnes (2015, pp.65-81), identifies different cross curricular models that can be used within education and can be adapted to use for various purposes. However, when using an approach that may be tokenistic it is unlikely to create genuine cross curricular connections in learning. Barnes also describes cross curricular models such as theme-based, multidisciplinary and double focus will allow for a higher standard of cross curricular learning. However, it is important to note that Barnes does not supply the only models for cross curricular learning, for example other ways to teach in a cross curricular manner could be the use of an inquiry-based learning approach (Crombie, 2014), or the Reggio Emilia approach (Thornton and Brunton, 2005).

Obviously, it is well known that within Wales currently there are important changes occurring with regards to the introduction of a new curriculum. Within successful futures, Donaldson (2015, p.40), recommends that it is important that literacy, numeracy and also digital competence need to be a prominent aspect of children's learning that is develop and applied across all areas of the curriculum as and when appropriate. This along with the Draft Curriculum (Welsh Government, 2019, p.4), further implies the new curriculum will uphold the notion of the cross curricular responsibilities being a focal point in all Areas of Learning and Experience, and shows that the curriculum in Wales is developing into a more cross curricular approach to learning rather than subject based learning. This is further reinforced through the 12 pedagogical principles (Impact Wales, 2018), as it states the need to 'reinforce cross curricular responsibilities, literacy, numeracy, digital competence'.

Knowing these developments, it could be suggested that this is a crucial time in which we discuss cross curricular learning critically in order to make sure that we provide the best provision possible for the young learners exposed to this new curriculum. Froebel within Pound (2017, p.14) suggests that within education teachers should be using a child-centred approach to deliver effective practice. This is further supported by Askew (2012, p.5), who supports the notion of individual children making sense of their own experiences and as such being a prominent figure in their own learning. This links to the idea that children develop knowledge

Student Number: 1700996

and understanding through their own experiences, and consequently using a cross curricular approach would help to aid this process. It is suggested by Derry (2010, p.10) that experiential learning is the way that children are able to learn to make sense of the world, through interaction with people and the environment. Thorndike within Pritchard (2014, p.16), further explores this concept within the connectionism theory, as he suggests that children develop their learning and knowledge of the world by observing what happens as a result of interactions with the people and the environment.

One of the main strengths of teaching in a cross curricular manner is the ease with which lessons can be applied to real life situations. It is suggested that this is an effective way to learn as the knowledge can easily be applied to the world around us when the children leave school. This is further supported by Fox and Surtees (2010, p.42), who suggests that through a cross curricular approach, specifically with mathematics, children can use knowledge to discuss and figure out real world problems, making learning more meaningful. There is evidence to support this as it is noted by Kelly (2013, p.1), that preschool children do not acknowledge that certain activities belong to different subjects or categories, as such they automatically learn and explore in a cross curricular manner and make connections to make sense of the world. The 12 pedagogical principles (Impact Wales, 2018) also acknowledge the importance of connecting knowledge to the real world, as it is stated that practitioners need to 'create authentic contexts for learning', and as previously mentioned cross curricular learning is an effective way to do so.

However, there is a contradicting view to this as Dunne (2010 cited in Grinyer and Bailey, 2012, p.96), suggested that the specific and often procedural nature of mathematics can often be complex and as such is best taught in a simplistic, straightforward manner. This would indicate that a cross curricular approach to teach certain subjects overcomplicates the intended aims of the lesson. This argument is further developed as it is important to note that children often think about life in a cross curricular manner however, learning through a cross curricular approach can often result in a lack of secure subject knowledge (Barnes, 2012, p.233). As such it could be suggested that practitioners need to be cautious with elements of learning that they teach in a cross curricular approach as sometimes concepts may be best

Student Number: 1700996

understood in a basic straightforward manner. However other concepts are best taught rooted in a real-life circumstance, so teachers should make a judgement based on what they believe the best way to deliver the intended learning would be. Also, while attending Professional Teaching Practice I witnessed that sometimes when attempting to include a cross curricular model of teaching often links can be superficial and does not help to benefit the skills, develop understanding or further enhance knowledge for the children. As such it is important that some subject areas are not forced into a cross curricular situation but develop naturally and have a pivotal role within the learning.

It is suggested by Kerry (2010, p.16), that by undertaking a cross curricular approach to learning the learner becomes the focus of the learning rather than the content, making the practice more personal and child focussed. Furthermore it is demonstrated by Ashbridge and Josephidou (2009, p.26), that the provision being central to the children is important as it allows the children to feel they have some control and value within the classroom, which can help to increase their self-esteem and confidence in learning. On the other hand, it is noted by Hayes (2010, p.384) that children having control over what they are learning in a child centred cross curricular approach allows children to avoid topics and elements of work they are uncomfortable addressing. As such, it is important that the teacher and the children work collaboratively to ensure important skills are addressed through the children's interests as much as possible but also the teacher needs to ensure that the children are acquiring the basic skills that they need.

Cross curricular approaches being successful can be dependent on the teacher and how they provide the provision. It should be acknowledged that cross curricular approaches can often encourage creative teaching. It is stated by Ofsted (2010, cited within Pound and Lee, 2011, p.8), that using a cross curricular approach is a good way to develop creative teaching and learning. Furthermore, it is shown by Throne (2007, p.8) and Desailly (2012, p.31), that creativity is crucially important within our current society due to the rate of progression of the work industry, as such allowing the children to become more creative by applying various subjects in a cross curricular manner to be innovative in order to solve problems and create solutions is important.

Student Number: 1700996

On the other hand, a key limitation for the use of a cross curricular approach to teaching is noted by Kelly (2013, p.8), as it is discussed that in order to provide successful cross curricular provision teachers need to have the knowledge and capability to do so. This is an issue as currently as there is a lack of cross curricular teacher training and as such teachers are unsure how to deliver a cross curricular curriculum effectively. It is suggested by Savage (2011, p.3), that in order to develop the curriculum it is essential for teachers to personally develop their professional understanding. So, knowing the plans for the changing curriculum in Wales, it needs to be acknowledged that teachers are not experts in delivering this new curriculum and upskilling teachers is an aspect that needs to be addressed to achieve the desired impact and successful cross curricular learning.

One of the concerns that teachers may have with regards to adopting a cross curricular approach is the complex planning required for a successful cross curricular approach to teaching and learning. It is identified by Rowley and Cooper (2009, p.2), that in order to plan effectively there needs to be an emphasis on a child led plan however the teacher will need to oversee this and spot connections and provide suitable provision that is demanded by the children and their interests. Latham (2002, p.112), gives further support as it is acknowledged that a successful cross curricular approach to learning requires a high level of teacher organisation and also states that within secondary school, teaching cross curricular is a bigger challenge. However, this concern could again be counteracted by the introduction of the new curriculum and the upskilling of teachers within the future.

Time scale is also something to consider within a cross curricular approach as it is stated by Barnes (2011, p.95) that there is no prescribed time scale in which cross curricular practice should be accomplished and this can be seen as both a positive and a limitation. This may be perceived as a limitation for some practitioners as the time scale is undetermined in some cross curricular approaches to learning and consequently, they are unaware of how much time they have to cover certain important aspects of learning. However although the argument of time constraints suggests that some cross curricular projects can take a substantial period of time, it is argued by Horner and Ryf (2007, p.70), that a cross curricular approach allows for a more flexible structure to lessons allowing for more learning to be undertaken

Student Number: 1700996

simultaneously. From this it could be suggested that if a cross curricular approach is used effectively then it can be a good use of the limited time in the classroom. While on Professional Teaching Practice I witnessed the use of theme-based cross curricular approach within a year 4 class, and I found that the children would often make clear links between subjects and this allowed them to have a deeper understanding of the content without necessarily having to have a lesson to explore concepts further within a specific subject as it was done naturally.

It is important to consider cross curricular learning within the context of the wider school environment, and in relation to the expectations placed on the children and also teachers within Wales. It is noted by Savage and Barnett (2015, p.73), that in order for learning to be authentic and purposeful in digital literacy, a cross-curricular approach that is holistic in nature allows for development of key capabilities within the process while being meaningful to the children and their lives. By giving the children experiences of learning that relate to their lives, you are giving children the opportunity to become 'ethically informed citizens' (Donaldson, 2015, p.31), who can affect elements in their own life as well as others. However, if we are considering the expectations of children's learning (curriculum), it can be noted by Jones (2010, p.79), that the use of a cross curricular approach within education may not be entirely beneficial due to the academic system currently being very much subject driven. However, taking into account the recent and future developments that are currently occurring within Welsh education, the use of Areas of Learning and cross curricular responsibilities may pave the way for a more appropriate use of cross curricular approaches.

Conclusion

In conclusion I would suggest that cross curricular approaches incorporating literacy, numeracy and digital competence can be useful to children's learning if it is used in an authentic appropriate way, as the world is definitely cross curricular and the joint application of various subject areas learnt in school is how we navigate through day to day life.

I think it is important within my own development that I 'value the active involvement of children and young people in their progress, development and well-being' (Welsh

Student Number: 1700996

Government, 2011, p.5). As mentioned previously in order to adopt a successful cross curricular approach to teaching, it is likely to be more effective if the children are actively involved in the planning, implementation and the reflection of the learning. Further support is given to this suggestion as within a case study Estyn (2018), commented that when children are given ownership and autonomy over their own learning it effects their commitment positively and they tend to make good progress.

I believe that a future target within my teacher development is to 'maintain an up-to-date knowledge and understanding of the professional duties and responsibilities of teachers and the statutory framework within which they work' (Welsh Government, 2011, p.5). With the current developments within the Welsh curriculum it is important that I take responsibility for my own development in order to provide the most effective provision possible. As such with the new curriculum developing into a more cross curricular approach it is important to research various teaching cross curricular methods that can be used to give children the best learning journey possible and this is done by taking responsibility for your own professional development.

I believe that with the new curriculum developing in Wales focusing on more of a cross curricular approach to learning will need to focus on upskilling teachers in order to use the curriculum effectively in the way it is intended. Therefore, it is my recommendation that practitioners with the education sector are given up to date training in relation to the new curriculum. Drawing together this discussion I believe that having literacy, numeracy and digital competence as cross curricular responsibilities allows children to obtain multiple opportunities to develop necessary skills for the future.

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Student Number: 1700996

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Student Number: 1700996

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