

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

Overview

Throughout this assignment, there will be a critical analysis of literacy, numeracy and digital competency as cross-curricular responsibilities. There will be discussion of the benefits and limitations of the cross-curricular responsibilities and close analysis of the new curriculum (Donaldson, 2015) and relevant policies, supported by theoretical reasoning. Also, there shall be critical reflection through and discussion of professional teaching experiences.

Introduction

Increased demand for children with improved levels of literacy, numeracy and wider skills, such as digital competence, has created a trend towards a curriculum that places emphasis on the development of these skills, or embedded within areas of learning and experience (Donaldson, 2015). It could be argued that literacy, numeracy and digital competency skills should be developed throughout all lessons, and suggestible if these disciplines were treated as cross-curricular responsibilities then arguably this idea could be enabled. Having a cross-curricular style of teaching could arguably lead to interdisciplinary learning, one feature of interdisciplinary learning is that it embeds transferable skills (Drake and Burns, 2004, cited in Hickey et al., 2013). It could be suggested that integration of knowledge emphasises a fusion of ideas and concepts across subject areas and could help to make education more relevant and meaningful for children (Hayes, 2010).

The current curriculum in Wales is evolving and there is an emphasis to make literacy, numeracy and digital competency cross-curricular responsibilities (Donaldson, 2015). It could be argued that when planning, as well as curriculum guidance, cross-curricular responsibilities should be given equal weighting. Perhaps not in every lesson, but certainly across a small unit of work. One of the recommendation in the new curriculum (Donaldson, 2015) is that the the three cross-curricular responsibilities and wider skills should be embedded within the areas of learning and experience. The literacy and numeracy framework (Welsh Assembly Government, 2014) and digital competency framework (Welsh Assembly Government, 2018a) could arguably be viewed as tools that aid practitioners when planning the cross-curricular elements of their teaching.

Literacy, Numeracy and Digital Competence Definitions and Cross-Curricular Responsibilities

Numeracy could be defined as giving pupils belief to have confidence and relevant skills to use mathematical approaches in all aspects of life, and ability to reason with mathematical concepts and apply these in a range of contexts to solve a variety of problems (National Numeracy, unknown date; Donaldson, 2015). Arguably, practitioners should be embedding skills such as data handling into planning in order to give pupils the confidence to develop these skills. If numeracy is incorporated into lessons other than mathematics then pupils are given the opportunity to practice and refine numerical skills. On current curriculum documents (Welsh Assembly Government, 2016b), statements that do not feature in the literacy and numeracy framework (Welsh Assembly Government, 2014) and are solely part of the mathematics programme of study have been made clear, to enhance the mathematical aspect of a numeracy statement, and to support the development of a holistic understanding of mathematics (Welsh Assembly Government, 2015).

Literacy arguably is the ability to read, write, speak and listen in a way that helps people communicate effectively, children arguably need every opportunity to explain thinking, discuss ideas and use language skills at an appropriate level (National Literacy Trust, unknown date; Donaldson, 2015). When literacy is incorporated into lessons pupils are arguably developing skills that vary from reading to oracy to writing. In order to raise literacy standards there was a need to incorporate the existing framework for literacy development, the literacy and numeracy framework, into the revised programmes of study to provide a degree of familiarity and continuity (Welsh Assembly Government, 2015). On professional teaching experience, I endeavour to use subject specific language. In order to understand the concept of the language, the terminology needs too be used and embedded in practitioner's explanations (Didau, 2014). It is the belief of the author that making children aware of the terminology can help them understand the concept of the topic. It could be argued that the proficient language the practitioner models could help gain a better command of language.

Arguably, digital competence is the skills and knowledge that enable the creative and critical use of technologies, arguably digital competence is essential for learners if they are to be informed, capable and have the potential to be successful in today's society (Welsh Assembly Government, 2016; Donaldson, 2015). Encouraging children to use technology could arguably be seen as a

constructivist approach. Some may suggest that due to the twenty-first century's technological driven society, digital competence should be given as much importance as literacy and numeracy (Arthur et al., 2013).

Arguably, the curriculum is evolving and literacy, numeracy and digital competence are being prioritised as cross-curricular responsibilities (Donaldson, 2015). Subjects, topics and themes other than English, Welsh and mathematics lessons could arguably provide invaluable opportunities for application of literacy and numeracy skills in interesting and varied contexts (Welsh Assembly Government, 2017). Dewey (2008) suggested that subjects should be intertwined rather than taught in isolation. Sometimes subjects can enhance one another, and skills such as literacy, numeracy and digital competence could be developed in a similar manner. Cross-curricular learning can help children apply their knowledge and skills across subjects and reinforce understanding and confidence (Boys and Spink, 2008). Some may suggest the current curriculum may not be adequate enough to help children thrive and live fulfilled lives in the twenty-first century (Beetham and Sharpe, 2013, cited in Barnes, 2015; Donaldson, 2015). Hopefully, the new curriculum (Donaldson, 2015), will rectify this suggestion. Sometimes what children learn can influence general cognitive capabilities as well as specific knowledge and skills (Siegler, 1998). Thus possibly suggesting when children are learning in a cross-curricular manner they are maximising their cognitive abilities and developing various skills whilst building upon their knowledge.

Plowden (1967, cited in Kerry, 2015) suggested that children's learning does not fit into subject categories. Arguably, if literacy, numeracy and digital competence are regarded as cross-curricular responsibilities it would harmonise this suggestion. Vgotsky (1978) suggests the children learn when they can make links with previous learning as they can extend existing concepts with new learning, thereby making links between their knowledge and structuring their own understanding.

Benefits and Limitations of Literacy, Numeracy and Digital Competence as Cross-Curricular Responsibilities

One of the twelve pedagogical principles that Donaldson (2015) proposes is that cross-curricular responsibilities are reinforced. This could arguably mean that the skills are reinforced over years throughout children's education or reinforced in a repetitive manner on a more frequent basis. Literacy, numeracy and digital competency skills could be pursued as tools that allow children to

enhance understanding of topics and themes (Gardner, 1999). These tools could be harmonised within a cross-curricular model and arguably better their understand of problems or these through a theme based approach (Barnes, 2015). Planning for cross-curricular responsibilities could be seen as progressive and building towards a piece of work that encompasses different elements of areas of learning and experience under a common theme (Ofsted, 2012). This could arguably be what is known as a thematic cross-curricular learning (Barnes, 2015). Through collaboration, the cross-curricular responsibilities could be being developed. Some may suggest giving pupils a choice to select how they develop the cross-curricular responsibilities could be beneficial. Also some may suggest that too much pupil choice a feature of some topic and thematic work allows children to somewhat avoid areas of learning that they find difficult, and resulting in poor attitude and work ethic (Hayes, 2010). Where the curriculum is good, practitioners acknowledge the importance of ensuring that pupils have strong literacy and numeracy skills so they build on their previous learning as they move through the school (Estyn, 2016b). Practitioners arguably need to begin to start regarding literacy and numeracy and digital competency as cross-curricular responsibilities before the new curriculum is fully implemented. Schools can seek guidance from the Welsh Assembly Government or local consortia about these cross-curricular responsibilities.

One limitation could be that the emphasis on the cross-curricular responsibilities could cause a diversion from the subject matter being taught. Hence, taking purpose and meaning away from the subject and causing a tokenistic approach (Barnes, 2015). A tokenistic approach could occur when a stimulus is utilised to add interest to the lesson being taught however the stimulus is only there as a token item rather than something meaningful (Barnes, 2015). However, some may argue that by adding a tokenistic stimulus would gain children's engagement on the Leuven Scale....

Furthermore, some may suggest cross-curricular approaches can sometimes fail because of poor planning or a lack of commitment (Estyn, 2016b). Admittedly, I sometimes struggled to understand where to appropriately include cross curricular responsibilities without already repeating the curriculum coverage. On professional teaching experience, emphasis on these cross-curricular responsibilities came from lesson planning sheets and other members of staff who would advise how they would incorporate the cross-curricular responsibilities. Admittedly, the author believes they work in a systematic manner in which they chose the curriculum area that is to be developed and then decide what cross-curricular skills could be developed in that lesson or unit of work. One recommendation I would suggest for myself is that I avert from this style of planning and begin to

embed the cross-curricular responsibilities more succinctly. The author believes it is slightly difficult to incorporate the three cross-curricular responsibilities into one lesson. However, it is arguably easier to incorporate them across a small unit of work. Henceforth, the children are still developing the three cross-curricular responsibilities but not in a forced and hurried manner.

Every child learns in the different ways, also it could be argued that they do not get excited or curious about the same things (Barnes, 2015) . Pupil voice could support school improvement by helping schools make more informed decisions on learning experiences, through pupils' involvement, they develop valuable personal and social skills such as listening skills and working with others (Estyn, 2016a). Ultimately, some may argue that by utilising collaboration, there is an element of social constructivism being developed. The way in which lessons are delivered could arguably also enhance cross-curricular responsibilities. For example, if children are working collaboratively, therefore it could be argued that they are developing their oracy skills.

Lifelong learning could be seen as dependent on the acquisition of skills necessary to gain knowledge, but these are often hard to assess (Hickey et al., 2013). Some slight implications with cross-curricular responsibilities could arguably be assessment and progression tracking. It could be argued that literacy and numeracy can be assessed by summative assessment, whereas it is slightly more difficult to assess digital competency through summative assessment. Predominantly, the cross-curricular responsibilities can be assessed by formative assessment. However, currently progress is not tracked (Welsh Assembly Government, 2014). In contrast, there is some suggestion that assessment guidance in future will be reshaped (Welsh Assembly Government, 2015) to ensure that expectations for learners are relevant and there should be increased expectations within the literacy and numeracy framework.

Teacher subject knowledge and confidence can impact upon their ability to apply and plan for the cross-curricular responsibilities. Good subject knowledge is one of the most important components of being a good teacher (Morrison, 2014). Practitioners should be made aware of the various opportunities for continuous professional development. Continuous professional development would enable practitioners to gain better understanding and henceforth enabling planning to be more succinct. Harrison (1996, cited in Webb, 1996) suggested that some newly qualified teachers may feel they have less to offer than teachers who have been in the practice for years. However, it could be argued that newly qualified teachers may be more up to date on new curriculum changes,

such as having literacy, numeracy and digital competence as cross-curricular responsibilities. Some schools have a member of staff designated to advising and co-ordinating cross-curricular responsibilities. Hence, maybe making it easier for members of staff to understand what they need to incorporate into their planning. It could be argued that pedagogy is paramount, understanding how to correctly embed the cross-curricular responsibilities...

Practitioners should appreciate that in some children's worlds technologies play a predominant role (Barnes, 2015). Hence, practitioners could endeavour to ensure that technology is incorporated into teaching and learning experiences. However, consequently, some schools may find it difficult to plan for development of digital competency skills due to limited resources. Digital competency has the potential to challenge pedagogical processes of teaching and learning (Savage, 2010). Healy (1999, cited in Pound and Lee, 2010) suggested that children need kinaesthetic activity and real-world experience and over-reliance on technology would not build intelligent muscles and overuse could produce convergent rather than divergent thinking. It is a continued priority for the author to ensure that on teaching experience children are developing these cross-curricular responsibilities. The author acknowledges that currently on most teachers planning sheets there are designated areas specifically for literacy, numeracy and digital competency skills.

In the two-thirds of schools where the curriculum is good, teachers recognise the importance of ensuring that pupils have strong literacy and numeracy skills and use the Literacy and Numeracy Framework to ensure that pupils build on their previous learning as they move through the school (Estyn, 2016b). Arguably at present, some schools have literacy and numeracy interventions in place to help children develop they numeracy and literacy skills. However, there are very few interventions to help children develop their digital competency skills. From the authors own personal research and experience is this conclusion deduced. Some may suggest that practitioners should ensure literacy, numeracy and digital competency are given equal weighting, even with regard to interventions and support for pupils who require extra help. From personal experience, the author understands that some schools designate 'digital leaders' (2Simple, unknown date), who are responsible for the technology within their primary school. Being a digital leader helps children develop confidence, awhile providing also provide digital competence support to teachers and peers (2Simple, unknown date). If digital competency prepares students to take an active part in their education and in social, cultural, economic, political and intellectual life, then the ability to work with others is paramount (Futurelab, 2010; Donaldson, 2015).

One proposal of how to move school's forward is ensuring children develop the full range of pupils' digital competence, literacy and numeracy (Estyn, 2016b). During the author's first professional teaching experience, I personally planned and taught a lesson that incorporated the three cross-curricular responsibilities. The lesson was designed around the scientific topic of upthrust. In brief, children would test if items would sink or float, they recorded on a table if they sunk or floated whilst recording using cameras and then would discuss their findings with a peer. Therefore, suggestible to be encompassing the three cross-curricular responsibilities.

Conclusion

Good teaching and learning regularly reinforces cross-curriculum responsibilities, and provides opportunities to practise them (Donaldson, 2015). Literacy, numeracy and information and communication technologies literacy could be referred to twenty first century skills that help result in lifelong learning (World Economic Forum, 2016). To conclude, some may suggest that literacy, numeracy and digital competence can easily be integrated as cross-curricular responsibilities. Donaldson (2015) suggests that the new curriculum should promote sustained attention to the development and application of knowledge and skills in literacy, numeracy and digital competence. Arguably, as they are referred to in the curriculum as responsibilities, it places a greater emphasis on how practitioners would prioritise them.