



APPENDIX GA36c

LEVEL 6 ASSESSMENT SPECIFICATION

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Programme:	BA in Education with QTS		
Module:	Cross Curricular Responsibilities: Literacy, Numeracy and Digital Competence		
Module code:	ECAD6012	Contribution to Overall Module Assessment (%):	50%
Lecturer:	Rachel Wallis	Internal Verifier:	Rachel Wallis
Assignment Title:	Looking forward: A critical analysis of literacy, numeracy and digital competence as cross-curricular responsibilities.	Word count (or equivalent):	2, 500
Submission deadline:	20.12.19 (23:59)	Return date of provisional marks & written feedback:	31.1.20
Submission method:	All written assessments, where practical and possible, must be submitted via Turnitin unless otherwise instructed by the Lecturer. (Please DO NOT put this assessment specification into Turnitin or it will match many similarities with other students' submissions.) Alternative submission method (if applicable): Late submission of the assessment will result in a late penalty mark. Penalties for late submission: Up to one week late, maximum mark of 40%. Over one week late, 0%. Only the Extenuating Circumstances Panel may approve a change to submission dates.		
Academic honesty / referencing:	Academic honesty is required. In the main body of your submission you must give credit to authors on whose research and ideas your work is based. Append to your submission a reference list that indicates the books, articles, etc. that you have used, cited or quoted in order to complete this assessment.		

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

In this assignment, I will be discussing the value of Literacy, Numeracy and Digital Competency as cross-curricular responsibilities within education in Wales. The aim of this essay is to explore the opportunities and limitations offered by adopting a cross-curricular approach to pedagogy. Discussion topics include engagement, teacher subject knowledge, and assessment.

A cross-curricular competence can be defined as a skill that can be utilised in a range of contexts (Safta, 2015). These competencies support learning and are essential for learners to succeed with confidence in the modern world (Welsh Government, 2019). The Welsh Government proceed to explain that cross-curricular responsibilities should be embedded in all of the areas of learning and experience (AOLE). Furthermore, the author states that embedding these skills in all areas provides learners with opportunities to develop their competency levels within them.

Literacy and numeracy have been described as “the essential foundations of education” (Donaldson, 2015, p. 18). Donaldson explains that literacy is a cross-curricular responsibility as language is fundamental in thinking, and numeracy is an essential skill to be able to work and live independently. Furthermore, the author states that with the development of technology in the workplace, numerical and mathematical skills have become a priority in the classroom as employers are seeking young people with strong numerical skills. Finally, Donaldson denotes that digital competency plays a powerful role in how young people communicate, network, find information and entertain themselves. Further stating that digital competence should be valued alongside literacy and numeracy as a twenty-first century skill.

The cross-curricular approach is not a new concept in education. Multi-disciplinary links are evident in both Greek and medieval Chinese education (Barnes, 2015). Barnes explains that influential individuals such as Aristotle amalgamated a selection of areas of learning to construct ideas that made a key contribution to global knowledge. Aristotle’s method of connecting disciplines to form a rounded understanding is supported by Barnes, stating that “The world beyond the classroom is cross-curricular” (Barnes, 2015, p. 75). The author

explains that in order for learners to develop a full understanding of the world, they must be able to view the topic from all angles.

Cross-curricular learning is a constructivist approach to pedagogy, a philosophy by Vico, who identified links held between science and the arts (Peterson, 2012). The author likens this to Piaget's theory of knowledge not being pre-existent, children should be encouraged to learn by constructing knowledge based on observations and experiences in a range of contexts.

Barnes (2015) explains that there are 8 different types of cross-curricular learning. One example being the theme-based approach. Barnes illustrates that this approach allows children to explore all areas of a topic through different subjects. When used by a confident teacher, this approach is said to motivate children well. However, Barnes addresses that if the practitioner forces links between the theme and the curriculum, the potential for learning is limited.

Another example of cross-curricular learning is the opportunistic approach. This method allows children to choose what they would like to learn within a theme (Barnes, 2015). This approach is supported by Pollard (2010), explaining that the relationship between the learner and their teacher plays a vital role in education. Pollard believes that asking children for their views on what they would like to learn and acting upon those opinions exemplifies mutual respect in the classroom. Additionally, Dewey implies that there is a need for curriculum development, explaining that a child's own interests stimulate their learning (Pound, 2006).

Dewey further explains that children should be given the opportunity to explore their own interests (Pound, 2006). The author explains that learners should be provided with experiences and activities that allow them to appreciate their world whilst developing their understanding. However, opponents of cross-curricular pedagogy believe that too much pupil choice provides children with ways to avoid what that they find difficult, meaning that some skills may not be covered (Hayes, 2010). This view is shared by Didau (2014) who discusses that whilst good readers develop their reading skills quickly and show rapid progress from learning to read to reading to learn, poor readers will become frustrated when asked to read and try to avoid it wherever possible. I believe, from observations made on my Professional Teaching Experience (PTE), that when learners are given the opportunity to decide what they

would like to learn, they engage more enthusiastically than when they are told what they will be learning about.

A child advancing in their understanding is synonymous to a child that is building up cognitive connections (Haylock, 2014). Haylock discusses that if learners try to learn skills in mathematics as isolated segments of knowledge, they may be able to remember them, but may not be able to identify when it is appropriate to use them. To prevent this, Haylock has developed a connections model to expand children's understanding in numeracy. Haylock's connection model establishes the four main elements of mathematics that children will encounter: pictures, symbols, language, and practical/real-life experience. It is suggested that making a link between two of these elements will strengthen a learner's understanding.

Whilst on Professional Teaching Experience (PTE), both methods of developing numeracy were observed. Multiplication tables in a Year 6 class were taught using rote learning, using chants, drills and tests. Many children within the class struggled, questioning why they needed to know their tables and what use they would have outside of the classroom. When comparing this method to Haylock's (2014) connection model, one connection had been made between language and symbols, as the children chanted their tables daily and completed weekly, written tests. To highlight the value of multiplication tables, a connection between the language and the real-life experience elements of numeracy should be established. This would provide a real-world context to the learning, supported by Barnes' (2015) statement of the cross-curricular nature of life outside of the classroom.

Numeracy can be used within a project or experience within the classroom (Haylock and Thangta, 2007). In support of this, a Chinese restaurant role-play activity was observed in a Reception class, on another PTE, to support the children's understanding of Chinese culture around the theme of Chinese New Year. Some children were sitting at a table with ordinal number placemats for them to work out who would go first, second, third and fourth. This part of the role-play experience alone made connections between symbols, language, and real-life experience, three of Haylock's (2014) four elements of numeracy. It also supported the children in their use of ordinal numbers up to ten, as advised by the Foundation Phase Framework (Welsh Government, 2015).

The aforementioned activity also helped to develop pupils' literacy skills as they were using relevant language to contribute to a role-play activity, a skill identified in the 'speaking' aspect of the Literacy and Numeracy Framework (Welsh Government, 2014). It was identified by Ofsted (2011) that schools that took advantage of opportunities to develop pupils' mathematical language, encouraged pupils to express their thought processes using the correct vocabulary. Gross (2013) highlights the paramountcy of oracy, identifying a child's vocabulary at age five as a significant predictor of the qualifications that they will achieve when they leave school. This promotes the importance of expanding a child's vocabulary to improve their prospects for future qualifications. However, this may not always be the case as Gross explains that the more accurate predictor of a learner's success is not the breadth of their vocabulary, but the depth. Gross suggests that a learner is more likely to be successful if they have a good depth of vocabulary, a richer knowledge of fewer words, than if they have a good breadth of vocabulary, knowing a greater number of words but to a lower level of meaning.

It was difficult to plan an activity that both engaged pupils and provided a natural link between mathematics and the class theme of Chinese New Year. This is a concern expressed by Hayes (2010), suggesting that links between some subjects occur more naturally than others. It could be argued that this activity would be classified as a hierarchical approach to cross-curricular pedagogy (Barnes, 2015). The Mathematics area of learning was the focus of the activity with the only aspect of the Knowledge and Understanding of the World area of learning being that the children were introduced to examples of Chinese cuisine.

On PTE, I noticed that some pupils struggled to engage in learning but engaged well when completing computer-based tasks. For this reason, I created a computer game where learners had to look at a coin on the screen then click on the correct value. This activity allowed me to achieve the Welsh Government (2019) professional standards of using different methods to form a blended learning experience and developing new techniques to meet challenges and progress pupils' learning. However, when comparing the task to the Welsh Government (2008) Digital Competency Framework, the task did not develop the learners' digital competency. This could be identified as a potential target for professional development.

A popular discussion topic with regard to cross-curricular pedagogy is teachers' subject knowledge. Dewey suggests that teachers should have good subject knowledge but should

still aim to progress in their own learning (Pound, 2006). Cross-curricular teaching demands teachers to expand their subject knowledge beyond their preferred subjects and entwine this new knowledge into a range of areas of learning (Hayes, 2010). However, Hayes also suggests that this sets a positive example to children, encouraging them to expand their fields of interest and see a higher value of non- 'core' subjects.

Many teachers find literacy challenging, thus causing difficulties when they are teaching literacy to a class (Didau, 2014). According to Gardner's (2011) Multiple Intelligences theory, each person has an individual combination of different types of intelligence, providing them with different strengths and weaknesses. This implies that all teachers will find some areas of learning more challenging than others. However, it is a teacher's responsibility to continue their professional learning and implement new techniques (Welsh Government, 2019).

Learners are engaging with a variety of technologies at increasingly younger ages (Payton and Hague, 2010). The authors highlight the assumption that pupils are 'digitally native', meaning that they possess a high level of digital competency as a result of growing up with technology when compared to 'digital immigrant' parents and teachers. It is further discussed that many learners master new hardware and software quickly, going on to teach adults how to use them. Many teachers may find this intimidating as there may be times when certain pupils are able to use the technology more proficiently than they can.

On the other hand, Payton and Hague (2010) discuss that some pupils do not have equal access to digital opportunities, making it more difficult to develop these twenty-first century skills. Furthermore, it is suggested that pupils' confidence when using technology may be misleading. The authors state that, when completing research tasks, pupils will often copy and paste information from a website without engaging with its content. For this reason, it is vital that practitioners are able to plan for effective digital competency development using the Digital Competency Framework (Welsh Government, 2019). To achieve this, less digitally competent or confident practitioners should seek advice and support from. This is in line with the professional standards for teaching and leadership (Welsh Government, 2019).

In an era of international comparison, learners' assessment results are being increasingly scrutinised, with raising targets putting pressure on children (Clausen, 2015). Assessing

learners' progress is an integral part of the role of the primary practitioner (Clausen et al. 2015). However, it has been observed that assessment is a major difficulty when practitioners attempt to implement a cross-curricular approach to learning (Greenwood, 2013). The author also suggests that there is often a lack of progression when integrating subjects as a result of this.

Greenwood (2013) recommends that Assessment for Learning (AfL) techniques are used alongside cross-curricular learning in order to monitor progress. AfL has been described as formative assessment that promotes students' learning (Black, et al. 2007). It is further recommended that it should be informal and embedded into the learning. Black explains that techniques become formative assessments when the feedback is used to adapt the teaching to suit the needs of the learner. Furthermore, Black states that AfL has been observed to have a great impact on lower attaining pupils, thus suggesting that it is capable of reducing the spread of attainment across the class, whilst also raising attainment for all pupils. However, it can be argued that the feedback from formative assessments are used to indicate progress, not to inform future planning (Hattie, 2003). This brings the integrity of AfL into question as Hattie questions the validity of formative assessment other than to make practitioners believe that progress has been made.

Whilst it is evident that assessment may become more complex as a result of cross-curricular teaching, I believe that the benefits of implementing AfL outweigh the difficulties that accompany it. If it is possible to bridge the gap between higher and lower attaining learners, whilst also raising the attainment for all, then it could be argued that implementing such techniques within a cross-curricular approach is a necessary step.

As cross-curricular responsibilities, literacy, numeracy and digital competency are considered to be highly valuable twenty-first century skills. Providing learners with the opportunity to explore a topic from all angles, whilst supporting them in the development of life skills, is an invaluable experience. It would be recommended that such vital skills as these should be brought to life in the classroom by linking them to real-world scenarios and contexts. Providing learners with examples of how they can use new skills outside of the classroom makes it far more likely for them to engage than if no context is given.

Effective cross-curricular pedagogy requires meticulous planning on the part of the practitioner. In order to plan experiences that will be beneficial for learners, adequate subject

knowledge is vital. If teachers are less confident in any of the cross-curricular responsibilities, this is likely to have a detrimental impact on the success of the learners in these skills. It would be suggested that, in pursuance of good subject knowledge, practitioners should seek support and guidance from a range of sources, including colleagues, external agencies and reliable internet sites.

Finally, it appears as though assessment is made more difficult by the inclusion of cross-curricular pedagogy. The intertwining of areas of learning makes for a complex collection of skills to be supported and developed. It would prove difficult to assess all of these skills within one summative assessment, hence the recommendation of the use of Assessment for Learning as a formative assessment technique. Using informal assessment techniques will provide more up-to-date and relevant feedback and at a more suitable time than an end-of-term test. By the end of term, many misconceptions may have been missed through the use of 'rote' techniques, with the possibility of them slipping through the net without ever being addressed.

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