

The Change in Wales

Education in Wales is looking towards a new 'transformational curriculum' (Welsh Government, 2017, p.17) that will equip children with the skills to 'meet the needs of today and challenges of tomorrow' (Donaldson, 2015, p.6). For this, Successful Futures aims to ensure pupils leave school competent in literacy, numeracy and technology (Donaldson, 2015, p.28). To achieve this, Literacy, Numeracy and Digital Competence will become the Cross-curriculum Responsibilities. Practitioners will follow current statutory policy in the National Literacy and Numeracy Framework (LNF)(Welsh Government, 2013) and the Digital Competence Framework (DCF)(Welsh Government, 2016).

Skills being developed

In mixed ability groups, pupils will create their own political parties and produce a manifesto which they will present to the class. They will use the recent visit from Jeremy Corbyn as a platform for learning.



The class will debate a topical issue, such as the NHS. Each 'party' will prepare an argument, based on the values in their manifesto, to use in the debate with other class members. The skill 'explore challenging or contentious issues through sustained role play' (Welsh Government, 2013) will be developed.



Pupils will apply their prior knowledge of money and percentages to understand and form an opinion on taxes - they will also decide, on a small scale, how they would distribute government funds. The skill, 'transfer mathematical skills to a variety of contexts and everyday situations' (Welsh Government, 2013) will be applied to this lesson.



Pupils will work collaboratively to plan, film and edit a video promoting their campaign, in order to encourage votes. This will use the skill 'select and combine a range of text, image, sound, animation and video to produce an outcome for a selected purpose' (Welsh Government, 2016) from the DCF.

Planning

A Multi-disciplinary approach requires significant amount planning to be effective (Ofsted, 2010a cited by Barnes, 2015, p.71). This presents a limitation of the model with such limited time to plan. Donaldson suggests the most successful planning occurs when schools plan collaboratively (Donaldson, 2015, p.97) however this would present an issue with different experiences and themes taking place.

Cross-curriculum Responsibilities in Practice

A Year 6 example.

Assessment and Progression

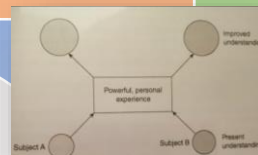
This model is advantageous in that it allows progress to be identified easily (Barnes, 2015, p.71). Teachers can assess previous work and use its application to an experience to identify progression and to plan the pupil's 'next-steps'. This might be visible in the application of subject-specific skills, or a deeper understanding of the topic. However, assessment methods used should be formative as multi-disciplinary learning is too layered for summative assessment (Barnes, 2015, p.245).

Identification of Subjects

A theme-based approach requires 'exploration through the eyes of several different subjects' (Barnes, 2015, p.69). However, this presents an increased possibility of subject areas becoming unrecognisable to students (Barnes, 2015, p.92), resulting in a reduction in their progression (Barnes, 2015, p.236). Since progression acts as a main foundation in Successful Futures (Donaldson, 2015, p.39) it is vital pupils are aware of subject-based objectives to ensure progression in these areas.

Multi-disciplinary Approach

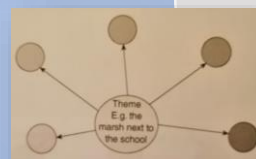
In this practical example the theme 'The General Election' will be applied to the Multi-disciplinary model for cross-curricular learning (Barnes, 2015, p.70). This model was chosen to enhance pupils' prior knowledge by applying their skills to a meaningful experience.



(Barnes, 2015, p.71)

Theme-based approach

This model was chosen to demonstrate how authentic and real-life applications of learning can be used to explore a theme through different subjects. For this example, the theme 'Our Earth' is used. The LNF and DCF skills will be learnt through the exploration of Geography and PSE to gain an understanding of four contrasting communities.



(Barnes, 2015, p.70)

Prior Knowledge

The application of prior knowledge to an experience can support pupils' construction of new knowledge (Alanazi, 2016). Piaget suggests that through experiences and interactions, the use of schemas enable us to add to prior knowledge to form a developed understanding (Piaget, 1964, cited by Alanazi, 2016, p.2). This application of knowledge to a new experience can 'promote meaningful and lasting learning' (Campbell, 2008, p.11).

Tenuous Links

A limitation to this approach is a risk of 'tenuous links' (Barnes, 2015, p.69) between subjects which can hinder optimal learning among children. Research supports this, revealing that teachers found links to be 'weak and contrived' (Knight 1993; Coe 2010; Johnston 2011 cited by Greenwood, 2013, p.447). It is vital that strong connections are made across the curriculum to ensure children progress and gain a holistic view of the activity (Skelton and Reeves, 2009, p.146).

Meaningful Context

For a theme-based approach to be effective it should be 'authentic' (Barnes, 2015, p. 69). Creating authentic learning is one Pedagogical Principle that teachers must implement in Successful Futures (ImpactWales, 2018). An authentic theme can have real-life applications which provide students with meaningful experiences that are relevant to their learning (Vosniadou, 2002, p.11). This can result in increased motivation and engagement amongst students (Barnes, 2015, p.107).

Teacher Knowledge

To ensure effective use of this model, a significant amount of teacher knowledge is required (Ofsted, 2010a cited by Barnes, 2015, p.71). Teachers must understand the skills and how to apply them across the curriculum. This will require both subject and pedagogic knowledge. This is a current issue with implementation of the LNF (Estyn, 2017, p.39) and DCF (Estyn, 2018, p.4) and could negatively impact achievement (Metzler and Woessman, 2010, p.1).

What this means in practice

The Cross-curriculum Responsibilities must be taught across the curriculum in a 'natural and authentic way' (Donaldson, 2015, p.68).

The promotion of cross-curricular learning will enable teachers to:

- Form links between 'subject knowledge and subject pedagogies in an enriching way' (Savage, 2010).
- Improve motivation and engagement among pupils (Kelly, 2013, p.7)
- Encourage pupils to 'show initiative and to discuss and debate issues' (Hayes, 2010, p.383).

It has strong foundations in many constructivist theories, such as learning through social interaction, scaffolding and active learners (Hayes, 2010, p.384). Additionally, neuroscience research has highlighted that learning is strengthened when a multisensory approach is being used (Alexander, 2010, p.96-7, cited by Barnes, 2015, p.263).

Facilitated Learning

A thematic approach can enable teachers to facilitate learning (Ward, 2003, p.3). This is advocated by Dewey, who found facilitated learning can encourage motivation and curiosity. (Dewey, 1899, 1916, cited by Aubrey and Riley, 2016, p.6). Bruner's educational theory of 'Scaffolding' supports this method of learning and highlights the teacher as a support mechanism (Wood, Bruner and Ross, 1976). Facilitating learning enables students to engage 'at a cognitive level which encourages intellectual advancement' (Boyle et al, 2011, p.75).

An investigation into the well-being of children from four contrasting communities.



In investigating this topic, children will record data regarding different aspects of these communities. They will look at income per family, price per food item, cost of education, etc. The skill 'construct, refine and interrogate data sets to test or support an investigation' (Welsh Government, 2016) will be utilised.



Children will use their numeracy skills when working with this data to 'make comparisons between prices and understand which is best value for money' (Welsh Government, 2016). They will use these skills to form conclusions on how the Welsh Government can financially support these communities in the most cost-effective way.



Children will write a report to the government making recommendations based on their findings. This will utilise the skill 'adapt structures in writing for different contexts' (Welsh Government, 2016).

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