

Introduction

This poster provides examples of how to incorporate literacy, numeracy and digital competence as cross-curricular responsibilities, utilising Barnes' (2015) modes of learning. The poster is intended as a starting point for practitioners to gain interest and extend understanding.

The following two cross-curricular activities look to gain children's interest, sparked initially through a visit and a theme leading on to questions and problem-solving. The aim of a cross-curricular approach is to develop deep and real-life knowledge of subjects through a constructivist approach, with pupils gaining hands-on experiences through group work (Hayes, 2009 and Gerstein, 2019). As Barnes (2015) points out, cross-curricular teaching and learning is not intended to be included in every lesson, although it can be used as a motivational tool to develop 'ambitious, capable learners, ready to learn throughout their lives' (Donaldson, 2015, p. 106). The following cross-curricular projects will be for KS2 learners, although they can be adapted for FP and even secondary education.

The activities combine creative thinking and wider skills, underpinned by sound subject knowledge, this combination is a valuable asset when planning children's learning (Barnes 2015).

References

- Barnes, J. (2015) *Cross-curricular learning 3-14* (3rd edition) London: SAGE
- Donaldson, G. (2015) *Successful Futures*. Cardiff: Crown.
- Welsh Government. (2019) *Draft Curriculum for Wales 2022*. Cardiff: Crown.

Theoretical models of Cross-curricular teaching

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Interdisciplinary model

The following three activities take place over a theme-based term, although the activities lend themselves to an inter-disciplinary cross-curricular model of learning. The product of the children's learning will be the performance of a play, showcasing all the knowledge they have gained throughout the theme. The theme of Celts was chosen; however the activities could be adapted to work just as well across the humanities.

We ignite the children's interest with a Virtual-Reality, historical trip back to Celtic times. This is a powerful tool for an introduction, as children are engaged and research has highlighted the **positive emotional aspects** as well as more powerful memories being generated when using VR, compared to more traditional styles of teaching (Allcoat and Von Muhlenen, 2018).

The children's interest in the Celts will be the catalyst for a bow and arrow project. During this DT carousel the class will gather information on why Celts used bows and arrows, what materials they were made from and **what we need to consider** when making our own bow and arrow. They will use **numeracy skills when they use a Carroll diagram to 'extract and interpret information' to sort different materials** (WG, 2016). Further understanding will be developed when they measure the wood and string needed for the bows and the use of **estimations and 'measuring instruments', when looking at the distance their arrows fly** (WG, 2016).

To bring the learning together in an inter-disciplinary way, **the children will work on a collaborative response in the form of a play**. They will be progressing their **literacy skills when writing a play about a Celtic attack**. This will then be performed in a school assembly. Through the production of the play the class will **work in collaboration as well as developing their creativity and use of previous knowledge, three of the 12 pedagogical principles** (Donaldson, 2015).

Key:

- Literacy, numeracy and digital competence skills
- Subject specific & wider skills

Theme-based model

Focussing on the UNCRF, this approach gives teachers the opportunity to help children learn their rights and understand their 'own culture, language and religion' (UNICEF, 2019). The following activity integrates The Rights of the Child, through a theme-based cross-curricular approach (Barnes, 2015). The activities aim to ensure that pupils are highly motivated and make strong progress across the curriculum (ESTYN, 2016). There are many areas to explore following these initial activities and the children should be encouraged to pursue these ideas further (Hewett, 2001). Through the initial interactions with different people, the children will celebrate our similarities and differences and developing an understanding that people from other cultures are interesting and provide enjoyable learning opportunities (Zakis and Liljedahl, 2009).

To start, the children will video-call schools in foreign countries. The countries can be selected from previous work in the year, such as Chinese New Year or World Cup topics. **The activity will harness the DCF strand of communication when they 'demonstrate appropriate online behaviour'** (WG, 2008). Following the call, the class can discuss the pros and cons to the video-call, considering the purpose of the call and the audience (WG, 2008). These discussions can be filmed/recorded by the teacher to be referred to in following lessons. **Children will also develop their online communication when they 'show an understanding of the advantages and disadvantages of different forms of communication and when it is appropriate to use each'** (WG, 2008). They will also be developing their **oracy skills by discussing their rights and how they are the same world-wide**.

The second focus will harness pupil's literacy skills in a cross-curricular way as they **design a poster**. They will be using the poster to sell recycled glass-bottles with fairy lights in as house lights. The money raised from the sales can be used to send funds abroad to support the communities they have been communicating with earlier in the week. Daly (2003) notes that boys tend to gain more when **writing for a purpose**.

On the day of selling the bottles the class will have to **work in groups** to arrange the stall and display their posters. A great way to **develop entrepreneurship skills**. **The children will check money received and give out correct change, also tracking money with accurate recording to develop money-management strategies** (WG, 2016 and WG, 2019, p. 14). As **money management** doesn't connect to **well-being** in the current curriculum but will be present in the new curriculum, this will be a good way to not only improve the children's understanding, but also how to implement this as a practitioner (WG, 2019).

Further suggestions

- Children can also video-call Welsh-speaking schools from around Wales to harness **YCC** (WAG, 2003).
- There are strong ties here to **PSE development** as the topic can lead to discussion around refugees, their struggles and rights.
- During the term, a visit to Castell Henllys can be arranged to support understanding. Barnes (2015) noting this can lead to opportunistic cross-curricular teaching as pupils discover **individual interests** during the visit.
- The Celts have strong links to YCC and the draft curriculum, **Welsh culture and the language of cultures beyond our own** (WAG, 2003 and WG, 2019).

Considerations

- Increased creativity from both learners and teachers as a result of independent choice (Robson, date unknown).
- Hirsch (1988) and Didau (2014) state that deep, core knowledge intelligences are needed by learners before they can truly gain knowledge.
- In the United States, inter-disciplinary teaching is more of an exception; there is often objection by those who see thematic learning as having less integrity (Beckmann, 2009).
- While attention needs to be given to pupil's obtaining specific skills, focus should also be given to the pedagogical principles to ensure activities relate to the curriculum purposes. These activities look to develop specific skills while also providing 'authentic contexts for learning' where children **'problem solve'** (Donaldson, 2015).