

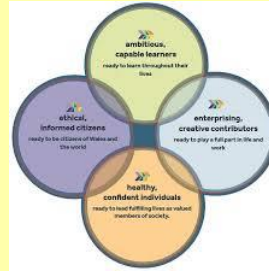
Design and present an academic poster applying theoretical models of cross-curricular teaching to the incorporation of literacy, numeracy and digital competence as cross-curricular responsibilities

Introduction

According to the Welsh Government (2019), literacy, numeracy and digital competence are expected to be taught across the curriculum and seen as cross-curricular responsibilities in the new curriculum. This poster will present two theoretical models of cross-curricular teaching that will be applied to a 5 day unit of work for learners in Year 4. Benefits and limitations for each will be discussed as well as comparisons and contrasting aspects. Each unit of work will incorporate literacy, numeracy and digital competence skills as well as skills from different areas of learning and experience (AoLE).

Donaldson's Vision

Graham Donaldson proposed vision, 'Successful Futures' provides the new curriculum with a holistic approach to learning (Donaldson, 2015). The new curriculum is built around 4 purposes that should 'underpin all teaching and learning in Wales' (Welsh Government, 2018). The unit of work in this poster promotes all 4 purposes, giving learners the opportunity to be:



(Welsh Government 2018).

Renovating and re-creating Swansea City Centre

This unit of work will be carried out over 5 days and is designed for a Year 4 class. It incorporates literacy, numeracy and digital competence skills through activities that are undertaken through visits to different structures in the Swansea City Centre. Recently there has been improvements to some of the city centre (Swansea Council, 2019). On each day, learners will visit 5 different locations that need redeveloping. Learners will work in groups and each group will rotate to a different location each day. Each group of learners will be given a different occupation on each day and be given tasks assigned to that occupation. The researchers will gather information from members of the public. They will ask some simple questions to a small number of people about what they would like to see change about the location. The designers will create new designs of one of the locations on iPads. The builders will need to build their renovating design using Lego, to a smaller scale. The architects will plan out the shape of the new building, using measurements from the current building. The advertisers will create posters and also be given the option of creating an e-poster that will advertise their new projects in the city centre.



(NAHT, 2019).

References

Barnes, J. (2015) *Cross-Curricular Learning 3-14*. 3rd edn. London: SAGE.

Donaldson, G. (2015) *Successful Futures*. Available at: <https://gov.wales/sites/default/files/publications/2018-03/successful-futures-a-summary-of-professor-graham-donaldsons-report.pdf> (Accessed: 17th December).

Inter-disciplinary cross-curricular model (Barnes, 2015).

Some of the benefits of using the inter-disciplinary model are that each activity will be provided with clear objectives. It is important to ensure there is good communication and collaboration between staff to ensure consistency over the whole unit of work. The learners will be able to access many areas of the curriculum through an over-arching theme. The activities take place outdoors and this will aim to 'improve physical and emotional well-being through opportunities in the natural environment.' (Outdoor Learning Wales, 2019). Nesta (2019) suggests that 'collaborative problem solving will be a crucial skill in the future workplace and can also support academic attainment.' The activities will be undertaken in groups so that all children in the class will have the opportunity of problem solving collaboratively. At the end of the unit of work, all pupils will have the chance to present their work to the class. This will give pupils 'the chance to challenge and expand on a topic by having others ask questions' and in turn broaden their knowledge and understanding as well as feeling a sense of achievement in completing and sharing their work with others (Hayton, 2019). There are a few limitations when applying this model to the unit of work. It is important to make the learning objectives clear so that there is a purpose to each activity. Also, there may be concern that the learning won't reach every learner in the class. The activities are aimed to be fun and engaging so hopefully every learner can benefit from the unit of work (Adams, 2016). And finally there is a potential challenge in incorporating literacy, numeracy and digital competence skills that are achievable given the time frame. It may be the case that learners will only scratch the surface of the learning and not fully understand and attain the skills (DiCarlo and Lujan, 2006).

The unit of work presents opportunities to learn literacy skills cross-curricular. The learners will embark upon learning objectives that include aspects of identity and culture, speaking and listening and adapting their writing to different types of text. The learners will present their work to the class at the end of the unit which will enable them to reflect on what they did. By creating posters as advertisers they will work on their writing skills and adapting it to suit an audience (Welsh Government, 2019).



Two theoretical models of cross-curricular teaching

Both cross-curricular models have their benefits and limitations. Applying either model to the unit of work would hopefully be effective and make the learning more refined and worthwhile. Applying the opportunistic model would give children ownership of their learning and the freedom to be curious. However, applying the inter-disciplinary model may be more suitable to this unit of work because there are many literacy, numeracy and digital competence skills that teachers can assign to each activity. Teachers can be more specific and can tailor certain progression steps to different learners based upon their ability. This will aim to encourage learners to challenge themselves and push them to the next level (Welsh Government, 2019).

The unit of work presents many opportunities to learn mathematics and numeracy skills cross-curricular. Some of the different roles the children will play provide these including, surveyor, architect and builder. Learners will complete tasks using geometry skills, statistics and different number skills. The learners will design shapes of buildings and take measurements of buildings. They will use Lego to build buildings to smaller scales and as the 'researcher' they will collect data and present it using tables and graphs (Welsh Government, 2019).



Opportunistic cross-curricular model (Barnes, 2015).

The benefits of using the opportunistic model are that the learning objectives could be chosen by the children, therefore the learning would be child-led. The children will be given the freedom to be curious, take ownership of their learning and embark on the activities using their creativity (Read and Spell, 2019). Learners will be able to delve deeper into the learning as they choose what they want to learn. The learning objectives will be chosen by the children and these objectives will be sparked from the learners own interests. According to Carlzon (2019) 'it is empowering for children to see their brilliant ideas come to fruition.' By giving the learners the opportunity to take control of their learning it will hopefully empower and motivate them to get the most out of the activities. Some of the limitations of using the opportunistic model to deliver the unit of work are that it is essential that all members of staff involved in the activities must be able to facilitate the learning and provide continually provide opportunities for learning to the pupils where literacy, numeracy and digital competence skills can be acquired. Armstrong (2015) suggests there are 'difficulties in establishing shared objectives and common goals' between staff in schools. Time should be given to staff in order to prepare and establish their roles as facilitators in the learning and they should aim to work collaboratively in order to achieve the same high standards in providing opportunities to learners. Another challenge may be that time needs to be given to the learners before carrying out the unit of work so that they can explore and come up with some things that they want to learn that coincide with the activities (Teach Thought, 2019). Lastly, another challenge may be that it may be difficult to include every pupils' ideas for what they would like to learn. The ideas would need to be filtered and chosen based upon the ones that are most suited to exploring literacy, numeracy and digital competence skills according to the different activities.

Digital Competence skills run across the unit of work and seamlessly connect with the literacy and numeracy skills that the learners will be working towards. Learners will interact and collaborate together as they take on the different roles in the unit. They will produce different forms of digital literacy and handle data to produce information literacy. They will have the chance to design buildings as the 'architect' on iPads and will be given the option of creating an e-poster to advertise their new buildings. They will produce simple tables and graphs to display data gathered as the 'researcher'. Learners will also have the opportunity to share their findings electronically (Welsh Government, 2019).

