

Positives and Negatives of Theme-Based Approach

The first cross curricular approach to learning that will be discussed is a theme-based approach. Barnes (2015, pp. 69-70), notes that through a theme that is authentic and relevant to the children, they can undertake learning in a broad range of subjects. A positive aspect of a theme based approach is expressed by Fox and Surtees (2010, p.44), as it is discussed that children need to be able to acknowledge that what they have already learnt can be applied within various situations and problems that they encounter in the future and themes helps to display this. However, Dunne (2010 cited in Grinyer and Bailey, 2012, p.96), strongly argues that ‘real life was not designed for learning maths’, and proceeds to suggest that maths should be taught in isolation, so that concepts can be fully understood. It can also noted by Barnes (2012, pp.232-233), that often through a cross curricular approach such as a theme-based approach can be detrimental to the children’s learning if too many subjects or areas are addressed, as little progression is made and children do not have a secure subject knowledge as learning becomes superficial and lacks depth.

Approach 1 – Theme based

Within this approach the overarching theme is healthy eating. The children will take part in an investigation to find out how healthy are people within our school and feedback their findings while giving possible recommendations. The children will take part in this small module in groups.

The children will start by deciding what they would like to find out and will then create a questionnaire which they will distribute around the school, in order to gather information which they can consider against the knowledge and information that they already know. The children will then collect the results of their questionnaire and will interpret their findings into graphs and tables to display the information that they have found. This will allow them to start to draw conclusions and think about what this means, with regards to future recommendations to the school.

The children will then cerate their own video of a news report on their findings and give recommendations based on what they know and what they have learnt using role play.



(Welsh Government, 2016b)

LNF

Creating Graphs and Analysing Data

- use understanding of simple fraction and decimal equivalences when measuring and calculating, e.g. $\frac{1}{2} = 0.5$, $1/10 = 0.1$
- represent data using: – lists, tally charts, tables, diagrams and frequency tables – bar charts, grouped data charts, line graphs and conversion graphs
- extract and interpret information from an increasing range of diagrams, timetables and graphs (including pie charts)
- use mean, median, mode and range to describe a data set.



(Welsh Government, 2016a)

LNF

Creating a Questionnaire

- Write with a clear purpose, showing consideration for the reader, e.g. by choosing appropriate vocabulary and presentational device.
- Use techniques in planning writing, e.g. mindmapping, sequencing, placemat activities.
- Use language appropriate to writing, including standard forms of English.

Creating News Report

- Explain information and ideas, exploring and using ways to be convincing, e.g. use of vocabulary, gesture, visual aids.
- Speak clearly, using formal language and projecting voice effectively to a large audience, e.g. event for parents/carers, presentation to visitors.
- Explore issues and themes through role play.

Group Work

- Contribute to group discussion, taking some responsibility for completing the task well, e.g. introducing relevant ideas, summing up.
- Build on and develop the ideas of others in group discussions, e.g. by asking questions to explore further, offering more ideas.



(Welsh Government, 2016c)

DCF

Create News Report Video

- Create, explore and analyse data sets, highlighting relationships within them, e.g. using tables, charts, spreadsheets and databases.
- Combine a range of multimedia components to produce an appropriate outcome
- Create, collect and combine a range of text, image, sound, animation and video for selected purposes
- Back up files to a second or third storage device, e.g. removable storage device, network drive (locally or online).

Approach 1

Creating Questions

It is important that children are given the opportunity to explore their own interests and intrigues. Nottingham (2015, p.104) notes that curiosity and questioning is important as curiosity has allowed for so much progression in various fields.

Interpreting Data (Graphs)

Pound and Lee (2011, p.33) states children having the opportunity to think through data allows the children to fine, modify or explore ideas further, and this should help to enable the children to gain a better understanding.

Within Townsend (2012, p.62) discusses that sometimes the use of ICT can make the process of creating graphs quicker, so that children can focus on what the information shows, although it is also considered that sometimes the focus of ICT can overpower the learning intentions.

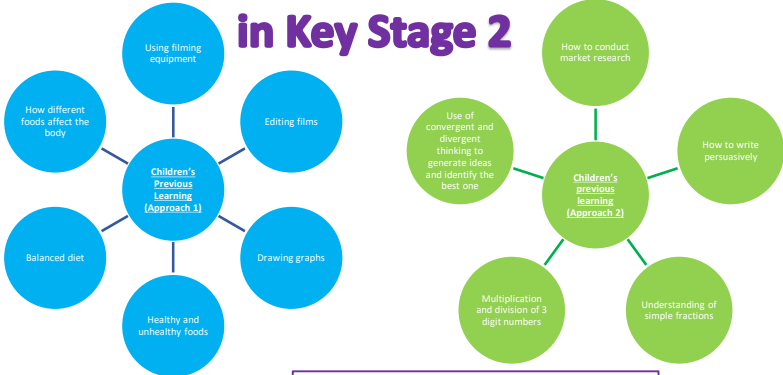
News Report (Media)

‘Making a film requires a number of different practices including critical thought about audience, advance planning of different scenes, script writing, careful consideration of content, creative thinking about camera angles and some considerations around e-safety and copyright if the film is to be made publicly available on the internet.’ (Payton and Hague, 2010, p.24).

It can be noted that during this section of the activity, Soffel (2016) it identifies that out of the 21st Century Skills two foundational literacies are being developed (literacy and ICT literacy), and also three competencies are being developed (creativity, communication and collaboration). Indicating there are many important skills being developed during one activity. It is acknowledged by Ramey (2013) that the children in school currently in the future will be required to be work with various digital components in the work place, as such the children should have opportunities to engage in video creation where they can explore the software, as the more opportunity they have to explore and use digital devices freely the more comfortable they will become with devices and be more willing to be creative.

It is also acknowledged by Ofsted (2011, p.10) that better schools that are integrating ICT was a purpose to enhance the learning and as such helps to improve attainment.

Applying Cross Curricular Approaches in Key Stage 2





New Curriculum

There are similar elements discussed within the current curriculum Literacy and Numeracy Framework and Digital Competence Framework and the New draft curriculum documents (Welsh Government, 2019a), (Welsh Government, 2019b).

Therefore within the new curriculum these models of cross curricular learning are easily incorporated and in line with the new curriculum ethos. It is also important to note that as these approaches are identified as having child-led elements and as such there may be more curriculum links that the children will create through their own group processes.

Successful Futures (Donaldson, 2015b)

Within this document, the need for the new curriculum to make connections between areas of learning through a cross curricular approach to education is discussed. The cross curricular responsibilities of literacy, numeracy and digital competence are suggested to be developed across all areas of the curriculum in order for young people to have high levels of competence. It is also important that children are able to make solid connections in their learning in order to gain a deeper understanding of their learning. Also in order for the children to meet the four purposes children can not learn in isolation but must learn through a real world perspective in which connections are made.



Group Work

It could be suggested that these cross curricular approaches are taking on a social constructivist approach to learning (Grigg, 2010, p.116) as there is a big emphasis on progressing through these sessions as a group.

It is also important to note that within the 12 Pedagogical Principles it is the teachers responsibility to ‘encourage collaboration’ (Impact Wales, 2018).

However Meyer et al. (2008) states that independent learning is beneficial as it allows for more differentiated tasks and as such focuses on a more child centred approach to learning.

News Report (Presenting)

It is noted by Gross (2013, p.42) that Ofsted imply that the use of role play within Key Stage Two is favourable and can have a positive impact on the children’s learning. It is suggested by Martin and Lovat and Purnell (2007, p.23) that talk and speech within learning can be used to reinforce learning as children are engaging with content in different ways.

Investigation

This type of learning through an investigation format to learning links to Inquiry Based Learning in which children are able to learn within relation to a real life context and allows children to take more control over their own learning (Wallace and Husid, 2016, p.10).

Approach 2

Financial literacy

The Soffel, J. (2016) recognises that financial literacy is a foundational literacy for lifelong learning, so it should be valued within education.

It is important that children have opportunities to explore financial costs within this model as the Welsh Government (2016d, p.14), states that they want children to have be aware of the importance of financial aspects of living and what it entails before they leave school in order to help them in their adult lives.

Entrepreneurship

The Entrecomp Framework (Bacigalupo, 2016, p.7) acknowledges that through exposing children to entrepreneurial activities they will have a better understanding of how to impact their society and the economy.

Advertisement (website, advert, poster)

It can be noted by (Meadows and Leask, 2000, p.4) that within school children should be learning ICT skills that they can use within their further education and the world of work and it could be argued that making a website, creating videos and designing posters are elements of digital competence that children will be using in various jobs in their future career. However within Estyn (2013, p.6), it states that data handling, numeracy and modelling are areas that need to be developed at the Key Stage Two level, as such there may be other aspects of ICT that should be the focus in developing for the children’s future education.

Writing

Within this series of lessons in groups the children will have to write for a specific purpose (advertise their product). It is suggested by Didau (2014, p.148) that children will begin to value their writing if they have an audience, purpose and Genre in mind and these elements develop naturally in connection to the entrepreneurial task they are undertaking. However, it is acknowledged by Estyn (2008, p.6) that schools are able to identify pupils who are not progressing as expected due to systematically tracking pupils progress. Therefore as the majority of the writing completed in this approach is done as a group, there may be difficulty in accurate systematic tracking.

Positives and Negatives of Multi-disciplinary Approach

The second cross curricular approach to learning that will be discussed is a Multi-disciplinary approach. It is stated by Barnes (2015, pp. 70-71) that a multi-disciplinary approach uses a single theme in order to acquire a deeper level of understanding in at least two different subject areas. Due to the nature of the multi-disciplinary approach that has been devised on this academic poster, the series of lessons are predominately child-led. As such Kerry (2010, pp.15-16) discusses that the use of cross curricular approaches like a multi-disciplinary approach putting more emphasis on the self development of individual learners, meaning the development of the learner and their skills is at the forefront of the learning rather than the content. However, it is also worth noting that Hayes (2010, p.384) recognises that learning being child led and thematic can often provide children the opportunity to avoid certain areas of the curriculum which they find difficult or dislike, which encourages bad learning attitudes and habits.

Approach 2 – Inter-disciplinary Approach

For this inter-disciplinary approach the children will be taking on an entrepreneurship type activity as a group in which they will have to design, create and advertise a product that would benefit the school or people within the school. The children will go to different areas of the school and identify a problem or issue they want to tackle. They will then brainstorm to invent a product to counteract the issue that they have identified. The children will need to undertake market research (interviews), design the product or idea, work out prices, market the product (website, making a advert, posters), identify strengths and limitations and then finally create the product. The children will then have to present their ideas to the rest of the school by writing and presenting a sales pitch.



(Welsh Government, 2016c)

DCF

Advertisement

- Work with others to create an online collaborative project for a specific purpose in one or more languages, sharing and appropriately setting permissions for other group members, e.g. editing, commenting, viewing.
- Combine a range of multimedia components to produce an appropriate outcome
- Create, collect and combine a range of text, image, sound, animation and video for selected purposes.



(Welsh Government, 2016a)

LNF

Market Research

- Listen to others, asking questions and responding to both the content and the speakers’ viewpoints.

Marketing product

- Write with a clear purpose, showing consideration for the reader, e.g. by choosing appropriate vocabulary and presentational devices.
- Use the full range of punctuation to guide the reader in complex sentences, e.g. commas, bullet points, speech marks and apostrophes for possession.

Presenting

- Explain information and ideas, exploring and using ways to be convincing, e.g. use of vocabulary, gesture, visual aids.
- Speak clearly, using formal language and projecting voice effectively to a large audience, e.g. event for parents/carers, presentation to visitors

Group Work

- Build on and develop the ideas of others in group discussions, e.g. by asking questions to explore further, offering more ideas.
- Contribute to group discussion, taking some responsibility for completing the task well, e.g. Introducing relevant ideas, summing up
- Write with a clear purpose, showing consideration for the reader, e.g. by choosing appropriate vocabulary and presentational devices.



(Welsh Government, 2016b)

LNF

Finance

- Use understanding of simple fraction and decimal equivalences when measuring and calculating, e.g. $\frac{1}{2} = 0.5$, $1/10 = 0.1$
- Calculate fractional quantities, e.g. $1/8$ of $24 = 3$, so $5/8$ of $24 = 15$
- Multiply and divide 3-digit numbers by a single-digit number
- Order and compare the cost of items up to £1 000
- Add and subtract totals less than £100 using correct notation, e.g. £28.18 + £33.45
- Plan and track money and savings by keeping accurate records
- Realise that budgeting is important

Reference List

Bacigalupo, M. et al. (2016) EntreComp: The Entrepreneurship Competence Framework. Luxembourg: Publication Office of the European Union.

Barnes, J. (2012) ‘An Introduction to Cross-Curricular Learning’ in Driscoll, P. and Lambirth, A. and Roden, J. (ed.) *The Primary Curriculum: A Creative Approach*. London: SAGE Publications Ltd.

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

Didau, D. (2014) *The Secret of Literacy*. Carmarthen: Independent Thinking Press.

Donaldson, G. (2015a) Successful Futures A Summary of Professor Graham Donaldson’s Report. Crown Copyright. Available at: <https://gov.wales/sites/default/files/publications/2018-03/succesful-futures-a-summary-of-professor-graham-donaldsons-report.pdf> (Accessed: 7th December 2019).

Donaldson, G. (2015b) *Successful Futures*. Crown copyright. Available at: https://dera.ioe.ac.uk/22165/2/150225-successful-futures-en_Redacted.pdf (Accessed: 27th November 2019).

Estyn (2008) *Best practice in the reading and writing of pupils aged 7 to 14 years*. Cardiff: Estyn.

Estyn (2013) *The impact of ICT on pupils’ learning in primary schools*. Cardiff: Estyn.

Fox, S. and Surtees, L. (2010) *Mathematics Across the Curriculum*. London: Continuum International Publishing Group.

Grinyer, V. and Bailey, S. (2012) ‘Thinking beyond the classroom: Making mathematics real and purposeful’ in McAteer, M. (ed.) *Improving Primary Mathematics Teaching and Learning*. Berkshire: Open University Press.

Gross, J. (2013) *Time to Talk*. Oxon: Routledge.

Hayes, D. (2010) ‘The seductive charms of cross-curricular approach’, *Education 3-13*, 38(4), pp.381-387.

Impact Wales (2018) *Donaldson’s 12 Pedagogical Principles*. Available at: <https://www.impact.wales/wp-content/uploads/2018/01/12-Pedagogical-Principles-1.pdf> (Accessed: 27th November 2019).

Kerry, T. (2010) ‘Introducing cross-curricular teaching’ in Kerry, T. (ed.) *Cross-Curricular Teaching in the Primary School*. 1st edn. Oxon: Routledge.

Martin, T. and Lovat, C. and Purnell, G. (2007) *The Really Useful Literacy Book*. 2nd edn. Oxon: Routledge.

Meadows, J. and Leask, M. (2000) ‘Why use ICT?’, IN Leask, M. and Meadows, J. (ed.) *Teaching and Learning with ICT in the primary school*. London: Routledge Falmer.

Meyer, B. (2008) *What is Independent Learning and What are the Benefits for Students*. London: Department for Children, Schools and Families Research Report.

Nottingham, J. (2013) *Encouraging Learning*. Oxon: Routledge.

Ofsted (2011) *ICT in Schools 2008-11*. Manchester: Ofsted.

Payton, S. and Hague, C. (2010) *Digital Literacy Across the Curriculum*. Bristol: Futurelab.

Pound, L. and Lee, T. (2011) *Teaching Mathematics Creatively*. 1st edn. Oxon: Routledge.

Ramey, K. (2013) *The Use of Technology – In Education and Teaching Process*. Available at: <https://www.useoftechnology.com/the-use-of-technology-in-education/> (Accessed: 5th December 2019).

Soffel, J. (2016) *What are the 21st-century skills every student needs?*. Available at: <https://www.weforum.org/agenda/2016/03/21st-century-skills-future-jobs-students> (Accessed: 27th November 2019).

Townsend, V. (2012) ‘ICT and Mathematics’, in McAteer. (ed) *Improving Primary Mathematics Teaching and Learning*. Berkshire: Open University Press.

Wallace, V.I and Husid, W.N. (2016) *Collaborating for Inquiry-Based Learning: School Librarians and Teachers Partner for Student Achievement*. 2nd edn. Colorado: Libraries Unlimited.

Welsh Government (2016a) Programme of Study for English Key Stages 2-4. Cardiff: Welsh Government.

Welsh Government (2016b) Programme of Study for Mathematics Key Stages 2-4. Cardiff: Welsh Government.

Welsh Government (2016c) Digital Competence Framework. Cardiff: Welsh Government.

Welsh Government (2016d) Financial Inclusion Strategy for Wales 2016. Cardiff: Welsh Government.

Welsh Government (2019a) *National Literacy and Numeracy Framework: draft Curriculum for Wales 2022 version*. Cardiff: Welsh Government.

Welsh Government (2019b) *Digital Competence Framework: draft Curriculum for Wales 2022 version*. Cardiff: Welsh Government.