



NCES (unknown)

Models of Cross-Curricular Learning

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In the Foundation Phase

Aims of the poster

- ✓ Gain a good understanding of two cross-curricular models: Inter-disciplinary & Opportunistic and how to use them to teach the cross-curricular responsibilities.
- ✓ Discuss the benefits & limitations of each.
- ✓ Understand how to apply them to the classroom.

Benefits of Cross-Curricular learning

- ✓ Make connections between subjects (Hayes, 2010)
- ✓ Practice and consolidate their understanding (Fox & Surtees, 2010)
- ✓ Learn in real life experiences (Piaget, cited in Pound, 2014)
- ✓ Develop creativity and imagination (Barnes, 2010)

Inter-disciplinary Barnes (2015)

Barnes (2015) suggests the inter-disciplinary model aims to progress learning in two subjects that are shared from a powerful experience. The skills and knowledge gained from the subjects are then creatively connected in a collaborative response. Barnes (2015) suggests using this model with two subjects combined. However, with careful planning and clear objectives, it can be used with more than two subjects as seen below.

Constructivist approach

- (Griggs, 2015)
- Children learn by doing
- Teachers are more facilitators
- Build on previous knowledge by making connections
- Supported by Piaget and Dewey (cited in Pound, 2014)

The Inter-disciplinary model supports this approach to learning.

Connections model

Aligning with the constructivist approach is the connections model below (Haylock, 2008)



Haylock (2008, pg.10)

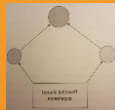
Children learn and understand by making connections between the four elements (Haylock, 2008) as they will do in the numeracy lesson below.

This model has been adapted from Barnes (2015, pg.73)

LO: To design and build a bug hotel

Collaborative response

Build the bug hotel



Barnes (2015, pg.73)

This model will help develop enterprising, creative contributors (Donaldson, 2015).



They will research suitable habitats for a range of bugs, which will develop the following skills:

- ✓ Use keywords to search for specific information (Education Wales, 2016, pg.1)

✓ Knowledge & understanding (Education Wales, 2015)



They will choose and measure appropriate resources, which will develop the following skills:

- ✓ Select appropriate equipment and resources
- ✓ Use standards units to measure length and height (Education Wales, 2013, pg.1)



They will write a response to the bugs, which will develop the following skills:

- ✓ Write text which makes sense to another reader
- ✓ use simple subject-related words appropriately

(Education Wales, 2013, pg.1)

Powerful experience

The garden has been dug up and all the bugs have lost their home. The bugs sent a letter to the class asking if they can build them a new home.

Benefits	Limitations	Adaptation
Make connections between subjects (Hayes, 2010) Improves creativity and imagination (Barnes, 2015) Link the learning to real life situations (Piaget, cited in Pound, 2014) Meaningful experiences (Barnes, 2015)	Challenging to plan effectively (Barnes, 2015) Requires good teacher confidence in all subjects involved (Barton, 2013) Can cause half-understood ideas or misconceptions (Barnes, 2015)	It could be argued that this model could be adapted by: ➤ The children are more involved in the planning and learning

Ynystawe case study

Ynystawe (2019) are a primary school who have pupil voice at the heart of the curriculum. They use a mixture of opportunistic and interdisciplinary type approaches for all topics of learning. Estyn (2014,pg. 6) state they have "excellent" learning experiences and they develop pupils' skills, knowledge, understanding and independence to a high standard.

* Donaldson (2015, pg.40)

** Donaldson (2015, pg.40)

*** Donaldson (2015, pg.41)

Opportunistic Barnes (2015)

Barnes (2015) suggests the opportunistic model allows the children to lead the learning in the direction they want from a shared theme or experience; It is unplanned with no learning objectives. Pupil voice is at the heart of the model. Article 12 of the United Nations Conventions on the Rights of the Child (UNICEF, 1989) is about pupil voice which has become more prominent in planning the curriculum. Pupil voice supports the four purposes (Education Wales, 2019) and Estyn (2019) now assess on the child's voice. The children will conduct their own research on their chosen topic with the teacher planning small activities to support them. The teacher will track them through observation and output (Barnes, 2015).

Zone of proximal development (ZPD)

Vygotsky (Cited in Pound, 2014) created the ZPD to understand how children learn.

He believed:

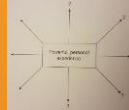
- If children can do it on their own it is too easy, and they will not learn.
 - If it is too hard, they will not learn.
 - The ZPD is what they can nearly do alone, they just need guidance from a teacher or peers
- Teachers should help children be aware of this so they can successfully take control of their own learning.



Halloran (unknown)

This model has been adapted from Barnes (2015, pg.76)

This model will help develop ambitious, capable learners (Donaldson, 2015).



Barnes (2015, pg. 76)



Plants

Bees

Powerful experience

The children go on a school trip to the National Botanic Garden of Wales (2019).

Butterflies

Birds of prey

- ✓ Show understanding of what they heard by asking relevant questions to find specific information (Education Wales, 2013, pg.1)
- ✓ Use everyday and mathematical language to talk about ideas and choices (Education Wales, 2013, pg.1)
- ✓ Create / edit multimedia components (Education Wales, 2016, pg.1)

These are very broad skills that children can develop with this type of module. Depending on the direction of the learning, learners may develop other specific skills alongside them.

Benefits	Limitations	Adaptation
Child-led (Dewey, cited in Pound, 2014) Can arise from any interaction (Barnes, 2015) Sensory Development (Barnes, 2014) Learn in real life situations (Estyn, 2017) Increased engagement (Hayes, 2010)	Unpredictable (Barnes, 2015) Good teacher subject knowledge (Barton, 2013) Can be tricky to track / access pupils progress (Barnes, 2015) Child-led if they are not used to controlling their learning (Vygotsky, cited in Pound, 2014)	It could be argued that this model could be adapted by: ➤ Giving time to research and brainstorm before the shared experience ➤ Have an end goal e.g. presentation, portfolio or product to present to the class teacher. ➤ Set themselves targets for next time.

Conclusion

To conclude, there are clear benefits for both models of cross-curricular learning to use in the classroom. The limitations can arise from lack of teacher understanding and poor planning which can be overcome by working collaboratively and researching good practice. Both models can be used to effectively embed the cross-curricular responsibilities within the New Curriculum for Wales 2022 (Education Wales, 2019).

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