

MODEL 1- INTER-DISCIPLINARY TEACHING AND LEARNING-

YEAR 6 Barnes (2015)

WHAT IS INTER-DISCIPLINARY TEACHING?

- Starts with a shared experience
- 2+ subject disciplines
- New learning is connected **creatively**
- Learning is concluded with a presentation

Skills from the Curriculum

Literacy Skills (Welsh Government, 2008a and 2019f)

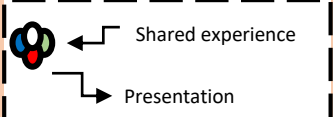
- Speak clearly using formal language
- Respond to others with questions and comments

Numeracy Skills (Welsh Government, 2008b and 2019f)

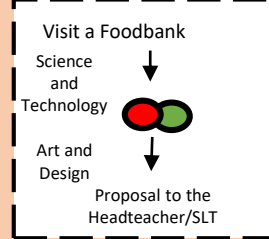
- Transfer mathematical skills to a variety of contexts
- Use ratio and proportion
- Use the terms profit and loss and make calculations

Digital Competence Skills (Welsh Government, 2008c and 2019f)

- Work with others to make a collaborative project
 - Select and combine text, images, video and audio for presentational purposes
- Art and Design/Expressive Arts (DCELLS, 2008a; Welsh Government 2019g)
Science (DCELLS, 2008b; Welsh Government, 2019h)



Diagrams adapted from Barnes (2015)



FOCUS: HOMELESSNESS AND POVERTY

Shared experience: visit a foodbank

Over the course of multiple weeks the children will:

- Research and develop their own plan for a community garden and food store on the school premises, including logistics to ensure plant growth (digital competence CCR, Science, Art and Design/Expressive Arts)
- Explore and develop their own blue-prints for their ideas (link to digital competence skills)
- Use mathematics to determine ratios of fruits and vegetables to plant, explore financial implications (numeracy CCR) and input and evaluate data on excel (digital competence CCR)
- Develop understanding of healthy diets and nutrition (Science)
- Prepare and deliver a digital presentation, including a persuasive speech encouraging the headteacher (literacy CCR, digital competence CCR)

BENEFITS IN CROSS-CURRICULAR TEACHING AND LEARNING

Why should we use cross-curricular teaching and learning?

LINK TO CURRICULUM FOR WALES 2022 (Welsh Government, 2019d)



Image taken from Welsh Government (2019e)

The Draft Curriculum for Wales emphasises that the Areas of Learning and Experience should be connected and support one another.

“ROBUST LINKS”

(Rowley and Cooper, 2009b, p. 2)
Cross-curricular learning provides opportunities to develop “robust links” between areas of the curriculum (Rowley and Cooper, 2009, p.2), the cross-curricular responsibilities and wider skills (Kerry, 2015c; Barnes, 2015)

RELEVANT TEACHING

Cross-curricular learning provides practitioners with the chance to have a clear focus and ensure learning is relevant (Kerry, 2015b; Barnes, 2015)

EMPLOYABILITY SKILLS

Workplaces are becoming increasingly cross-disciplinary and require employees who can effectively use literacy, numeracy, digital competence and other skills in a cross-disciplinary manner. Therefore, cross-curricular learning supports the development of employability skills. (Supported by: Gross, 2013; UK CES, 2009; UK CES, 2014; Barnes, 2015)

TEACHERS AS FACILITATORS

Cross-curricular teaching can be an opportunity for students to develop autonomy and interdependence, allowing students to take more control of their learning and develop a positive attitude to learning (Barnes, 2015; Kerry, 2015c; Desbottes, 2004)

CONTROL OVER LEARNING

Cross-curricular teaching and learning can provide students with greater control over their learning, and can provide flexibility in what they study (Barnes, 2015). This also provides opportunities for pupil voice and allows the students to share their opinions on what they should study in line with the UNCRF (UNICEF, 1990)

WHY WERE THESE MODELS CHOSEN?
Model 1 was selected due to the opportunity to simultaneously and equally develop two or more disciplines. In contrast, Model 2 was selected due to the opportunity to develop two or more disciplines separately but using the same stimulus. One benefit that was shared between the models was the ease of identifying opportunities to develop the 3 cross-curricular responsibilities of literacy, numeracy and digital competence which is a statutory requirement in Wales (DFES, 2015; Learning Wales, 2015; Welsh Government, 2019d). A shared challenge was ensuring that none of the disciplines took precedence.

CROSS-CURRICULAR TEACHING AND LEARNING USING THE CROSS-CURRICULAR RESPONSIBILITIES: YEAR 6 THE EXAMPLES

These examples are aimed at a Year 6 class and have been made to demonstrate how cross-curricular teaching and learning can be developed across the curriculum, whilst using and developing the three cross-curricular responsibilities. This work is strongly supported by Barnes (2015) and the National Curriculums for Wales.

ADVISED READING:

- Barnes, J. (2015) *Cross Curricular Learning 3-14*. 3rd Edn. London: SAGE.
- Haylock, D. and Cockburn, A. (2008) *Understanding Mathematics for young Children: A Guide for Foundation Stage and Lower Primary Teachers*. London: SAGE.
- Kerry, T. (2015a) *Cross-curricular teaching in the Primary School: Planning and Facilitating Imaginative Lessons*. 2nd Edn. Oxon: Routledge.

CHALLENGES IN CROSS-CURRICULAR TEACHING AND LEARNING

PRIORITISING SUBJECTS

Some teachers naturally focus more on certain subjects, sometimes due to routine, subject knowledge or confidence. This means that links between disciplines may be missed or prioritised regardless of their strength (Brewin, 2016).

TOKENISTIC AND THEMATIC MODELS

It is easier to make tenuous links when using certain models because of the broad focus, including the Thematic Model (pictured) and Tokenistic Model (Barnes, 2015)

What challenges should we be aware of?

TENUOUS LINKS

Links between disciplines and/or the theme can be forced, which can:

- Confuse learners
- Mislead learners
- Construct or reinforce misconceptions
- Remove the context for learning

Connections between disciplines should be purposeful and meaningful (Barnes, 2015; Haylock and Cockburn, 2008)

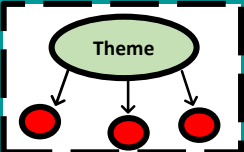


Diagram adapted from Barnes (2015)

SUBJECT KNOWLEDGE

Subject knowledge needs to be developed in multiple areas simultaneously when cross-curricular approaches are taken. This can be challenging in multi-faceted or complicated schemes of work. This also identifies a need for regular training, upskilling and/or re-cap of the curriculum (ICS, date unknown; CPD UK, 2016; Welsh Government, 2017)

MODEL 2- MULTI-DISCIPLINARY TEACHING AND LEARNING- YEAR 6 Barnes (2015)

WHAT IS MULTI-DISCIPLINARY TEACHING?

- Equally develops understanding in 2+ disciplines
- Uses a single stimulus for 2+ distinct purposes
- Stimulus prompts deeper learning
- The subject disciplines do not have to meet or affect each other

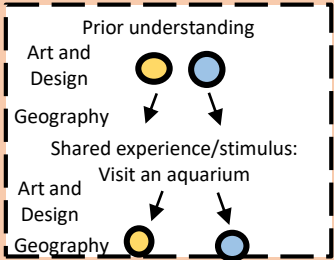


Diagram adapted from Barnes (2015)

SKILLS FROM THE CURRICULUM:

Literacy Skills (Welsh Government, 2008a and 2019f)

- Contribute purposefully to group discussion
- Use varied and appropriate vocabulary

Numeracy Skills (Welsh Government, 2008b and 2019f)

- Select and use units of measurement
- Use simple ratio, proportion and percentage

Digital Competence (Welsh Government, 2008c and 2019f)

- Construct and interrogate data sets
- Select and combine text, images, audio and video
- Identify and use secure sites for research

FOCUS: UNDER THE SEA

At the aquarium, the children will:

- Make sketches (to support Art and Design)
- Take photographs (to support Art and Design)
- Take notes, including accurate descriptions (Literacy CCR)

ART AND DESIGN

Art and Design/Expressive Arts (DCELLS, 2008a; Welsh Government 2019g)

Over the course of multiple weeks, the children will:

- Develop sketches made at the aquarium, including developing tone, colour, texture and shape (Art and Design)
- Use ratio, proportion and percentage to support accurate drawing to scale (Numeracy CCR)
- Research, compare and take inspiration from Welsh and Global artists (Literacy CCR, YCC)

GEOGRAPHY

Over the course of multiple weeks, the children will:

- Identify and compare seas and oceans, develop and understand reasons for change (Geography, Literacy CCR)
- Input, read and interrogate data in graphs and tables comparing the size of oceans and seas (Numeracy CCR, Digital Competence CCR)
- Explore features of different oceans and seas through research and discussion, including wildlife living there (digital competence CCR, Geography, Literacy CCR)

Geography/ humanities (DCELLS, 2008c; Welsh Government, 2019g)

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