

Curriculum sequencing Theory and flier

<https://www.teachwire.net/news/curriculum-sequencing-how-to-decide-what-to-teach-and-when>

<https://www.tes.com/magazine/teaching-learning/secondary/why-curriculum-sequencing-baking-sourdough>

<https://researchschool.org.uk/durrington/news/curriculum-and-sequencing>

<https://www.gov.uk/government/case-studies/curriculum-sequencing-for-primary-and-secondary>

<https://www.resourceaholic.com/2021/10/curriculum-sequencing.html>

<https://www.resourceaholic.com/2021/10/curriculum-sequencing.html?m=1>

<https://veema.co.uk/wp-content/uploads/2019/09/How-to-sequence-the-Curriculum-to-optimize-learning-for-all-pupils-2.pdf>

<https://www.tes.com/news/what-does-ofsted-really-want-see-school-curricula>

skills (procedural knowledge) and knowledge (declarative knowledge) -

<https://cornerstoneseducation.co.uk/podcasts/what-is-curriculum-sequencing-and-why-is-it-important/>

<https://qualifications.pearson.com/en/news-policy/subject-updates/business/curriculum-sequencing-in-action.html>

<https://www.theheadteacher.com/attainment-and-assessment/how-you-can-achieve-curriculum-sequencing-using-the-maestro-platform>

<https://www.teachwire.net/news/curriculum-sequencing-how-to-decide-what-to-teach-and-when>

<https://www.geography.org.uk/curriculum-intent>

Sequencing the Curriculum

Creating cross-curricular cohesion
in the NCC curriculum

19th April 2022

A possible Timeline:

Dec 2021

- Further HOD collaboration. Curriculum maps have been reviewed.

April 2022

- Departments review sequencing of knowledge or skill areas
- Student consultation

July 2022

- Sequencing of curriculum is considered or adjusted

Sep 2022

- Curriculum delivered has been sequenced
- Students experience a more cohesive relationship with whole-school curriculum

Ongoing

- Process of Curriculum review and collaboration continues
- Students are developing 'polymath' traits

Sequencing Timeline

OCTOBER 21st Departmental Meetings:

- Prep Department documents
- Prior discussion on knowledge and skills strands
- Knowledge Strands; Skill Strands > **Curriculum Map Summary**

NOVEMBER 1st Staff Training: Working towards a Sequenced Curriculum

- 9-10.30 - How students learn; Purpose of the curriculum; Working towards a sequenced curriculum
- 10.50 - 2.30pm - Marketplace two way curriculum exploration
- (Lunch 12.20-1pm)
- 2.30-3.05 - Faculty focus and consolidation

NOVEMBER 4th Departmental Meetings:

- Clarification of cross curricular themes/foci
- What impact for students?
- Implementation of changes in curriculum delivery or sequencing > Add “Sequencing” column to Curriculum Map
 - Add column for Sequencing to Curriculum Map called: “Interdisciplinary Knowledge”

APRIL 19th INSET:

- Shared knowledge and re-sequences agreed with identified departments
- Curriculum Maps resequenced for Sept 2022 start (**identified in purple**)

Sequenced curriculum objective

- Staff:
 - **To achieve a cohesive sequenced curriculum**
- Students:
 - **To develop polymaths (people of wide knowledge and learning):**
 - **Multi-skilled, sophisticated synoptic learners,**
 - **Interleaving in action**

'Types' of knowledge

- **Substantive knowledge** – the canon within your subject, the things that are worth studying e.g. **respiration**
- **Disciplinary knowledge** – how knowledge is produced, 'an ongoing truth quest' e.g. **knowledge scientists need to collect evidence such as changing one variable whilst keeping everything else same**
- **Declarative knowledge** – the articulatable, facts, 'knowing that..' e.g. **respiration is...**
- **Procedural knowledge** – not easily articulatable, problem solving, analysing, 'knowing how...' e.g. **if I change a variable the result will be affected**

These aren't 4 separate 'types' of knowledge

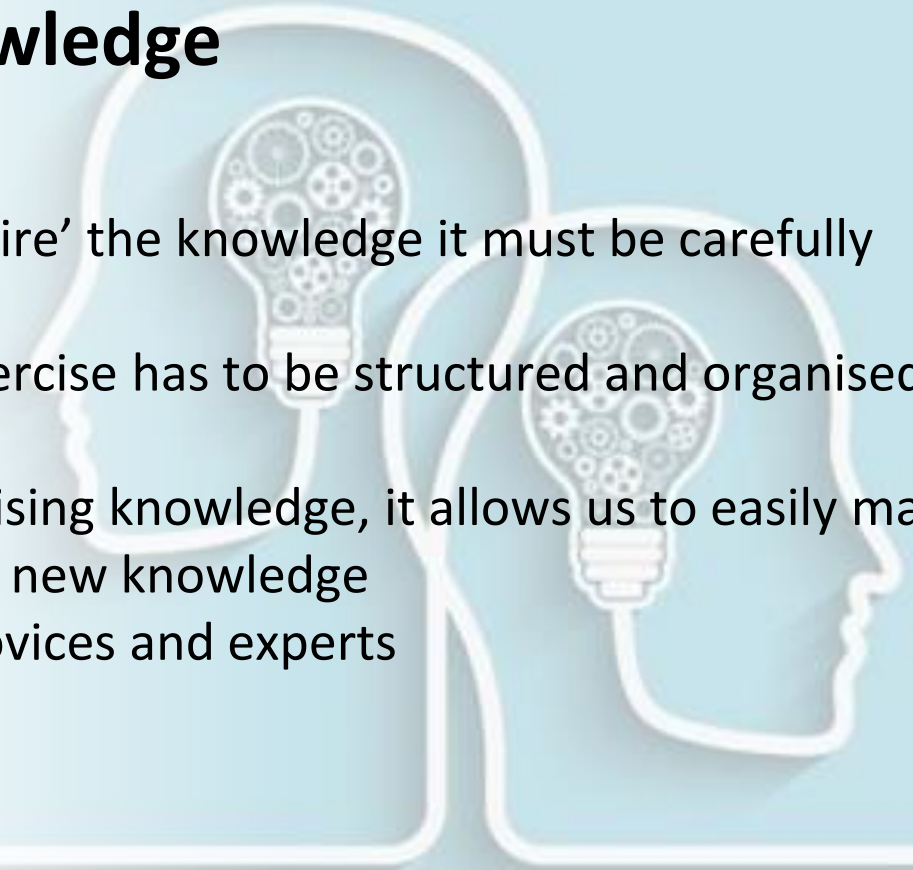
Futhermore:

Declarative can be both substantive and disciplinary

Procedural can be both substantive and disciplinary

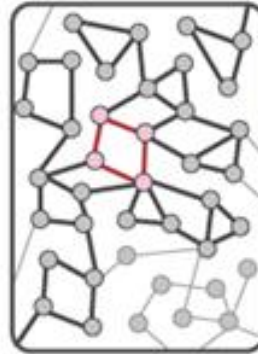
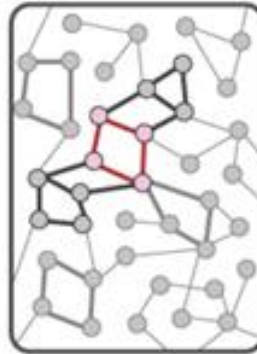
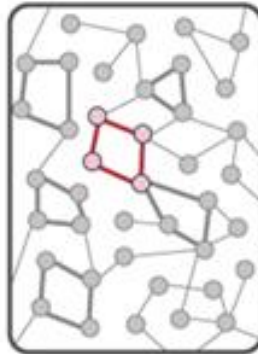
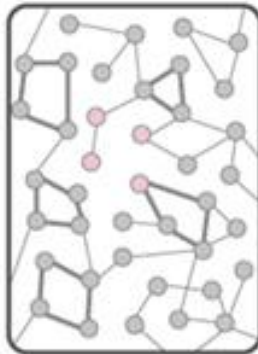
Sequencing of the knowledge

- In order for students to 'acquire' the knowledge it must be carefully planned and sequenced
- Every topic, concept, skill, exercise has to be structured and organised to build on schema
- Schema is a method of organising knowledge, it allows us to easily make connections when faced with new knowledge
- Schema looks different for novices and experts



Novice and expert schema

Model of memory representation in long-term memory store



Cognitive Load Theory and Sequencing

Cognitive load theory informs our curriculum sequencing by revealing the role of memory in helping students build the cognitive architecture required to access the curriculum effectively.

As working memory is limited, we need to sequence our curriculum to reduce cognitive load by drawing on prior knowledge and logically sequencing episodes of learning so they accumulate in small stages, securing understanding at one stage before moving on to the next.

This assists in reducing cognitive load as students can draw more effectively from their long-term memory, thereby reducing the load for their working memory. Although activating prior knowledge is an effective method for reducing cognitive load, this needs always to serve new learning. (*Howard and Hill, TES, 15.1.21*)

For the purposes of curriculum sequencing, we can broadly divide knowledge structures into those which are hierarchical and those which are cumulative. (*Howard and Hill, TES, 15.1.21*)

Hattie (2015) discusses at length the importance in Collective efficacy; the belief that it is “us” which causes learning. When teachers believe they can improve pupil outcomes, then it will happen. But it is not just teachers working in isolation, teachers must work together within school communities to plan curriculums which facilitate this success. (*Veema 2021*)

Meaningful Learning - Mark Esner



Ofsted inspectors will make a judgement based on the extent to which "the provider's curriculum is coherently planned and sequenced towards cumulatively sufficient knowledge and skills for future learning and employment".

By feeding topics forward into later topics in a planned way we are giving pupils the chance to retrieve what they have studied in the past, helping them to remember more and for longer and therefore encouraging what Karpicke and Grimaldi term "meaningful learning".

This is one way in which we can think of how knowledge builds in a sequenced curriculum: Some of what they learned in the topic on tectonics should be applied to their second topic on urbanisation (perhaps looking at how urban areas they are studying overcome the hazards presented by earthquakes) and then the unit that follows on rivers should ask them to apply what they have learned about tectonics (perhaps looking at the Okavango Delta) and about urbanisation (what impact do rivers have on the pattern of settlements? Is there a link between settlement hierarchy and a river's long profile?).

The student experience of the Curriculum

NCC Intent Statement:

We believe that at Newman Catholic College every young person has an entitlement to the “powerful knowledge” that will transform their lives. Moreover, not only will this “powerful knowledge” liberate their minds but crucially will provide the ability for our young people to engage critically with the world and respond as engaged and active citizens.

A knowledge-rich curriculum...*‘is a rigorous curriculum that does two key things. First, it maintains **high expectations for all learners. Second, it deliberately **builds their knowledge and vocabulary**’***

Implementation = Sequencing....

Sequencing the Curriculum - Facilitation

Facilitation Locations:

SR = Staff Room table

MH1 = Main Hall Table 1

MH2 = Main Hall Table 2

MH3 = Main Hall Table 3

PE = Physical Education Office

CR = Conference Room

Lib = Library

H3 = Hinsley Block Room 3

H2 = Hinsley Block Room 2

Timings

10.45-11.05 - Facilitation 1

11.05-11.15 - Departmental annotation of CM

11.15-11.35 - Facilitation 2

11.35-11.45 - Departmental annotation of CM

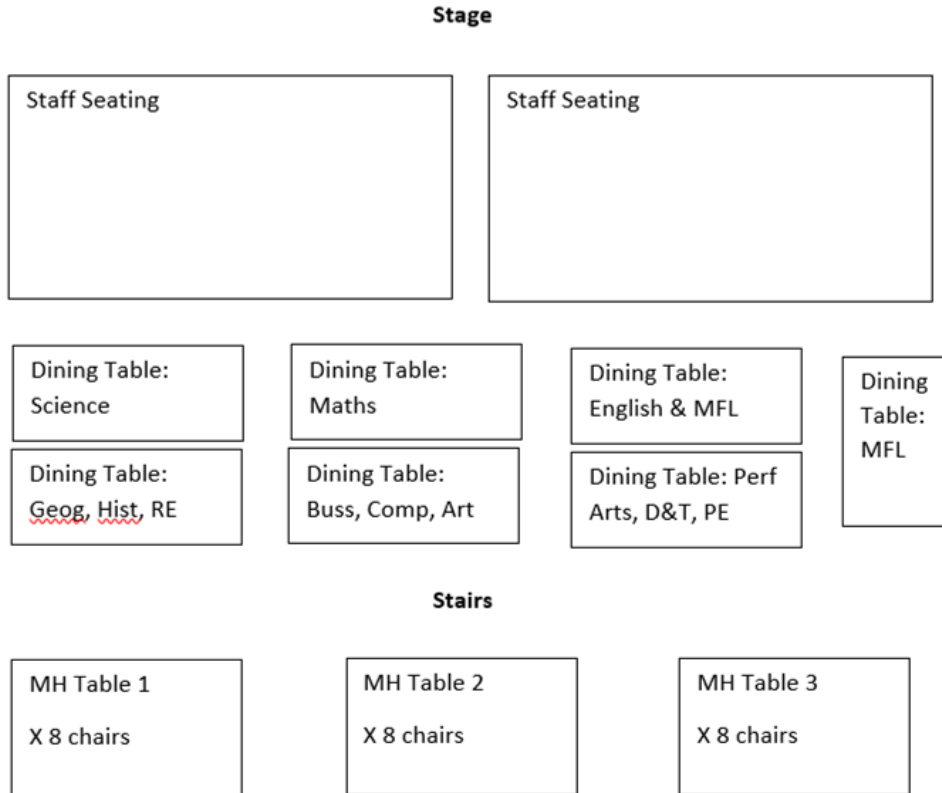
11.45-12.05 - Facilitation 3

12.05-12.15 - Departmental annotation of CM

12.15-12.35 - Facilitation 4

12.35 - 12.45 - Departmental annotation of CM

Seating Plan for after breaktime



Departmental paperwork: Please prepare the following:

- a) *3x Copies of your latest version of the Curriculum Maps, printed*
 - b) *Copies of the Curriculum sequencing document (originally 4th November)*
- Large departments will be split into smaller groups for some parts of this session.*

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Facilitation 1 (20 mins)	Loc	Facilitation 2 (20 mins)	Loc	Facilitation 3 (20 mins)	Loc	Facilitation 4 (20 mins)	Loc
Maths A, Science A	SR	Maths A, Business S,	SR	Maths A, D&T A	SR	Maths A&B & PerfArts	SR
Maths B, History, EAL A	SR	Maths B, Geography A, Science A	SR	Maths B, CompSci	SR	Business, D&T	SR
Science B, Art, EAL B	Lib	Science B, Art A, EAL B	Lib	Science A/B, D&T B	Lib	Science B, Business	Lib
CompSci, D&T, PerfArts	H2	Science A, RE, History, EAL A	H2	Art, MFL, EAL A	MH3	English B, MFL, History	MH2
Art A, RE A	MH3	Art B, PerfArts, D&T A	MH3	English A, Geography, EAL B	MH1	Art, PE	MH3
English A, EAL C	MH1	English A, Business	MH1	English B, PerfArts B	MH2	English A, D&T	MH1
English B, RE B,	MH2	English B, CompSci	MH2	Business, Comp Science	MR	Any other subjects with further facilitation conversations can use Facilitation session 4 to discuss with other departments.	
Business, D&T	MR	Geography B, PE, EAL C	CR	PerfArts A, PE, EAL C	H3		
Geography, MFL, Art B	CR	MFL, D&T B	MR	RE, History	CR		
Science C, PE	PE						

**SPLIT
DEPARTMENTS:**

**English A, B
Maths A, B
Science A, B, C
EAL A, B, C
D&T A, B
Geography A, B
Performing Arts A, B**

(These splits may only
be for one 20 min
session)

Facilitation 1 (20 mins)	Loc	Facilitation 2 (20 mins)	Loc	Facilitation 3 (20 mins)	Loc	Facilitation 4 (20 mins)	Loc
Maths A, Science A	SR	Maths A, Business S, Geography	SR	Maths A, D&T A	SR	Maths A&B & PerfArts	SR
Maths B, History, EAL A	SR	Maths B, Geography A, Science A	SR	Maths B, CompSci	SR	Business, D&T	SR
Science B, Art, EAL B	Lib	Science B, Art A, EAL B	Lib	Science A/B, D&T B	Lib	Science B, Business	Lib
CompSci, D&T, PerfArts	H2	Science A, RE, History, EAL A	H2	Art, MFL, EAL A	MH 3	English B, MFL, History	MH2
Art A, RE A	MH 3	Art B, PerfArts, D&T A	MH 3	English A, Geography, EAL B	MH 1	Art, PE	MH3
English A, EAL C	MH 1	English A, Business	MH 1	English B, PerfArts B	MH 2	English A, D&T	MH1
English B, RE B,	MH 2	English B, CompSci	MH 2	Business, Comp Science	MR	Any other subjects with further facilitation conversations can use Facilitation session 4 to discuss with other departments.	
Business, D&T	MR	Geography B, PE, EAL C	CR	PerfArts A, PE, EAL C	H3		
Geography, MFL, Art B	CR	MFL, D&T B	MR	RE, History	CR		
Science C, PE	PE						

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