

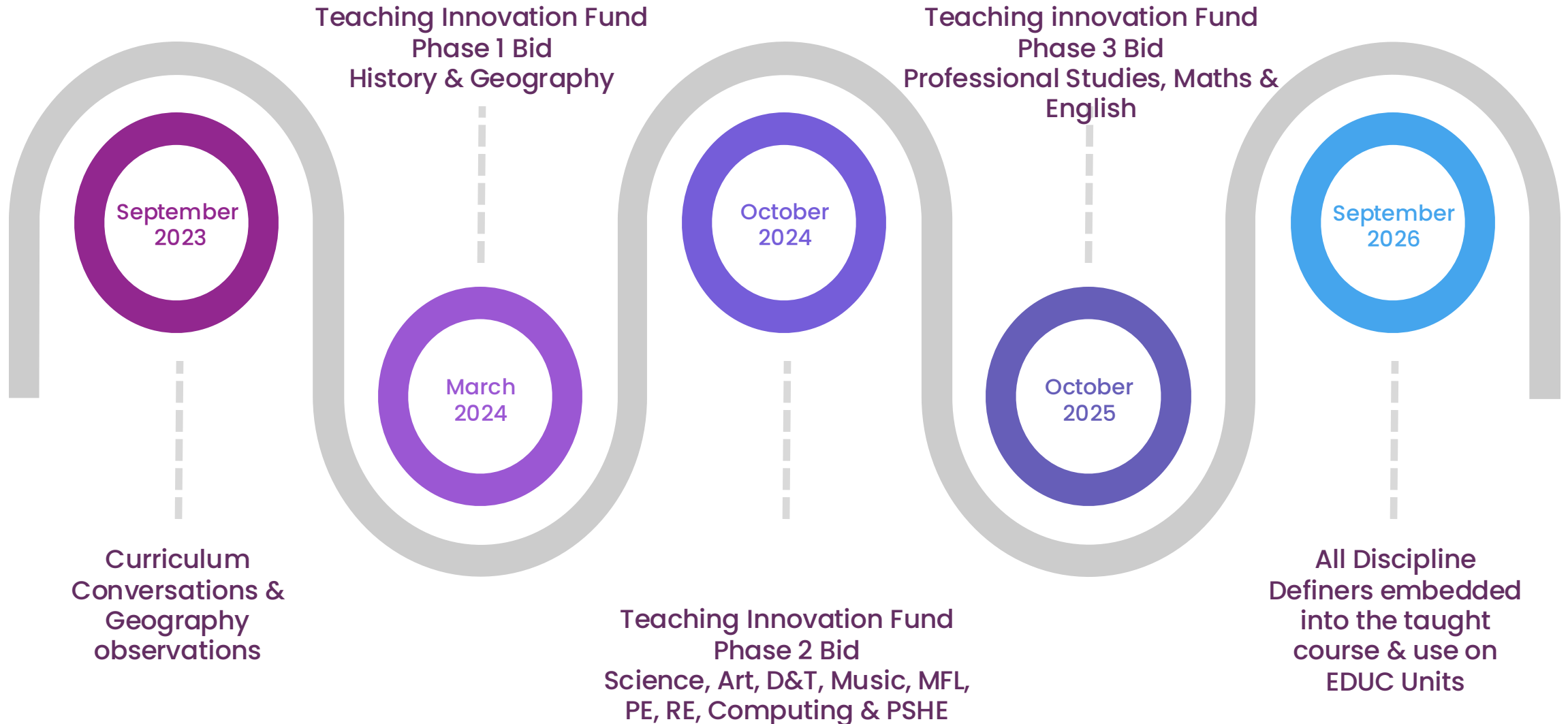


Discipline Definers

From teaching resource to blueprint: extending 'Discipline Definers' for primary education to university assessment and assignment guidance for students.

Andrew Rhodes & Dr Rebecca Phillips

Teaching Innovation Project Timeline

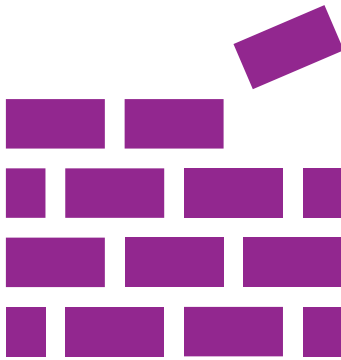


Curriculum Complexities

Local context

Hidden curriculum

External pressure



Core Subjects

3

English
Maths
Science



Foundation Subjects

9

Art, D&T & Music
History, Geography & **PSHE**
Languages, Computing &
PE



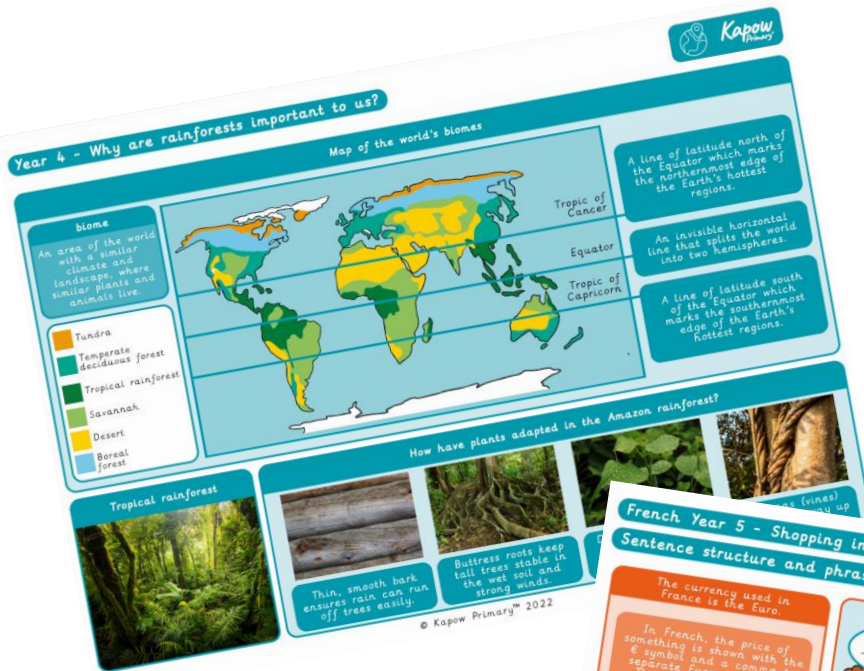
Mandatory

2

RE
RSE

Values, beliefs &
attitudes

Knowledge Organisers KOs



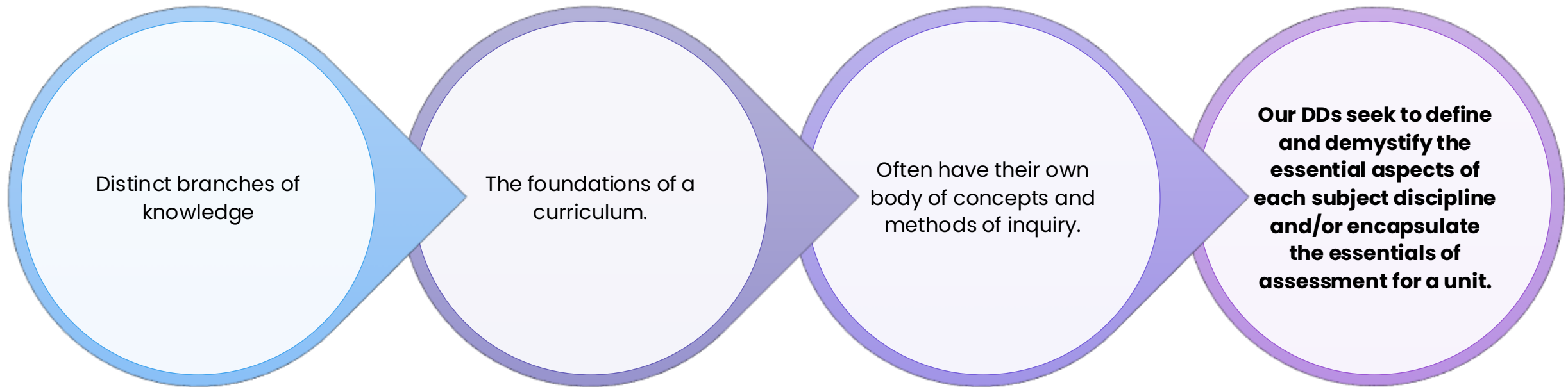
themed

essential
facts

vocabulary

visual

Discipline Definers DDs



A core definition
of the subject
discipline

Big ideas in...

Big ideas refer to the broad over arching **themes** that provide a **framework** for understanding and connecting knowledge.

They are not facts or details but act as “lenses” to view the discipline through

Overarching substantive concepts

Substantive concepts are the core foundational knowledge (**building blocks**) and ideas within a discipline or in other words the “**what**”

Disciplinary concepts

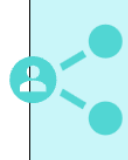
Disciplinary concepts are the **methods** used in a specific discipline area or in other words the “**how**”



Key Publications



Global Perspective



Teaching Techniques



Oracy

•Teachers should provide pupils with opportunities to:



Organisation



Further Reading

EYFS starting points

Understanding the world

Other strands of learning examples

-
-

Key teaching considerations

EYFS- KS1- LKS2- UKS2-	EYFS- KS1- LKS2- UKS2-
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How do I approach this subject discipline?
What are key publications I need to read?
How can I learn more about this subject discipline?

What are the building blocks in EYFS within this discipline?
What is the link to the EYFS Framework?
What does it look like in practice?

What does a teacher need to think about when planning learning in this discipline compared to other subject disciplines?

Student Voice

Strengths

Science DDs are very useful as they were woven into the PGCE science teaching sessions and used as fundamental to science teaching.

Teachers in schools we work with now have the DDs up on their walls as a really good resource for teachers.

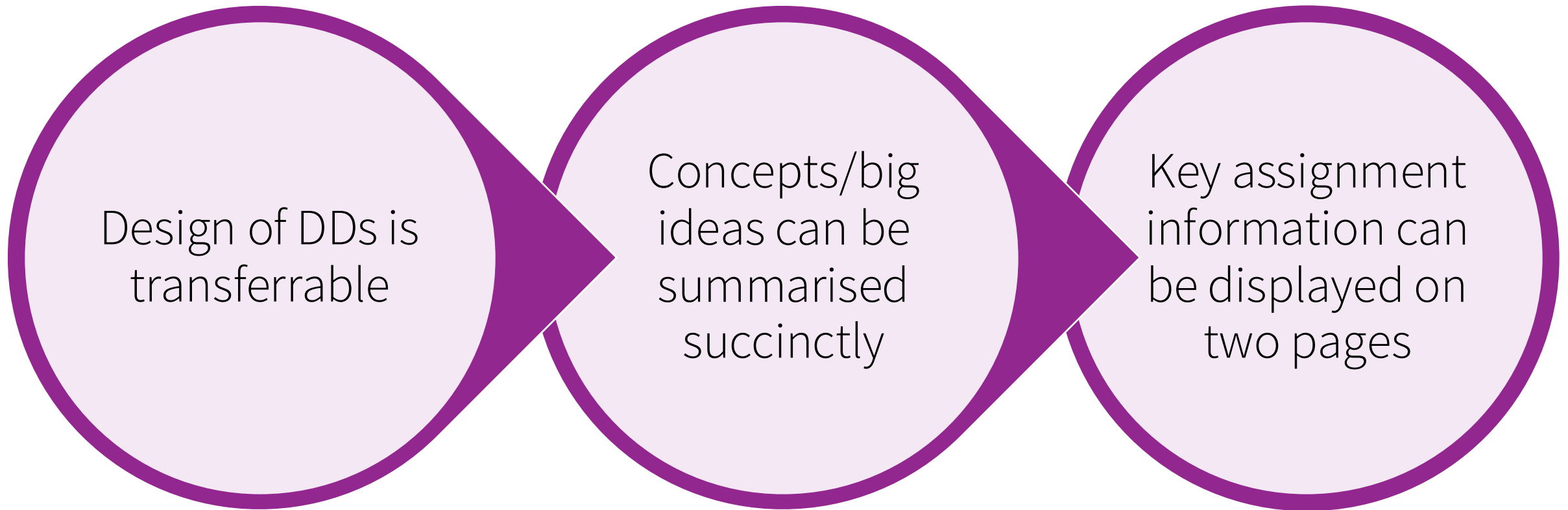
Longevity is clear - we will use these when we become subject leaders to enhance our understanding of our allocated subject.

Feedback

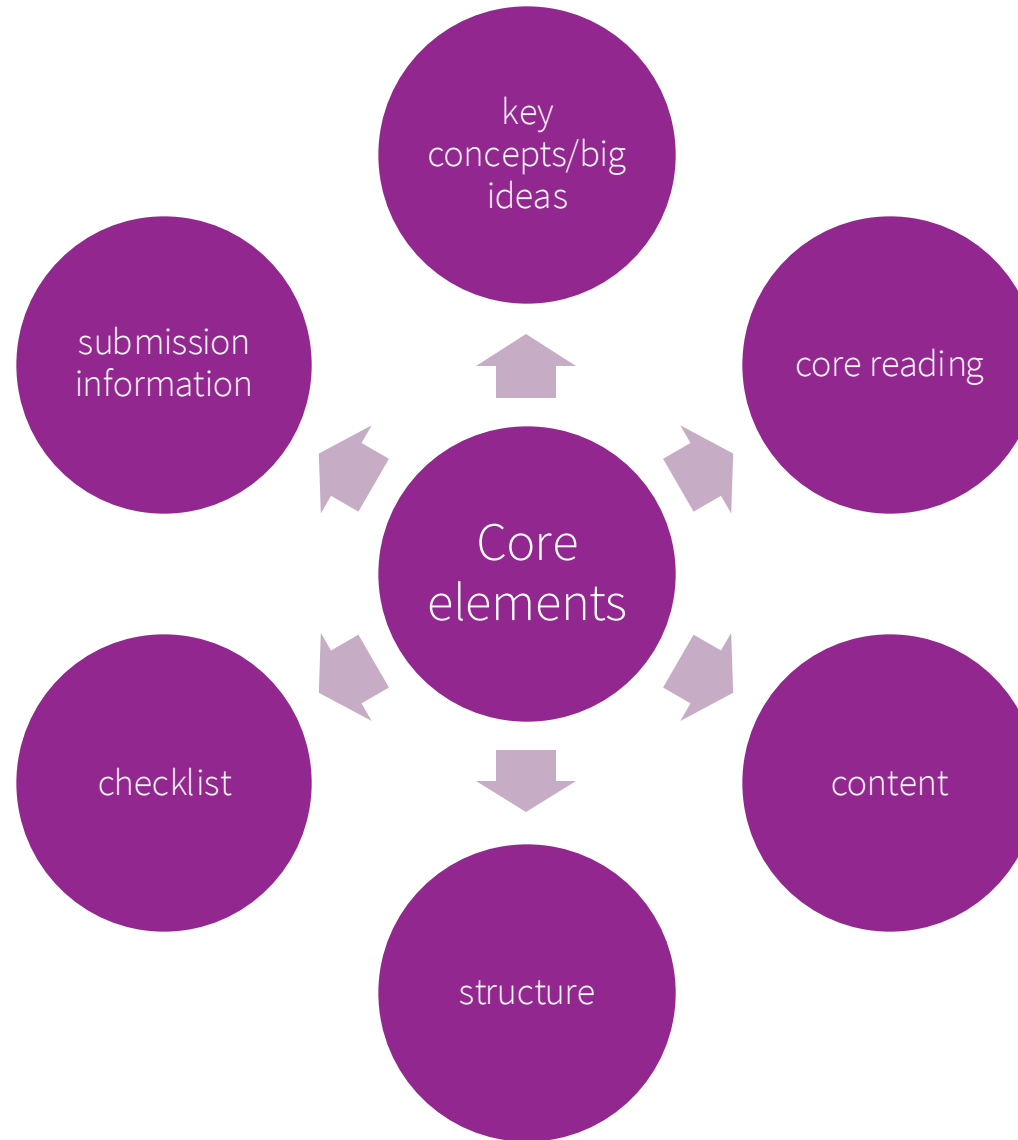
In taught sessions, can you allocate more time for us to practise using the DDs to enhance our subject knowledge?

Create a welcome pack for new trainees which include all the DDs at once - e.g. in a binder or booklet which we can bring to all the sessions

From teaching resource to blueprint



Outcome: a quick guide to EDUC unit assignments



Assignment title

Part 1: Literature review and practitioner enquiry

Drawing on theory relating to cognitive load and memory, discuss how teachers might effectively support learning through these three focus areas:

*eliciting and activating prior knowledge
identifying and addressing misconceptions
strengthening memory and recall
(retrieval practice)*

Explore in depth one of the focus areas drawing from the data collected from your school-based observations.

Part 2: Reflection and analysis of learning from the 'how children learn' ITAP, using the appendix D template ITAP placement booklet.

Assignment overview

- Assignment A provides you with an **introduction to practitioner classroom research**.
- It is based on curriculum learning in semester 1 and centres around a range of educational perspectives which help you to understand the theory and practice relating to **how children learn**.
- It draws mainly from the professional studies lectures and tutorials on 'how children learn' as well as on information gained from taught course curriculum subjects and data generated during the 'how children learn' intensive teaching and practice (ITAP) day in a school.
- The university input provides opportunities to think through different theoretical viewpoints about how children might learn effectively in different primary curriculum subjects (e.g. maths English, science and the foundation subjects).
- The focused data generation tasks during the ITAP placement days provide opportunities to observe and learn how to support pupils' learning through three key aspects of classroom practice: **eliciting and activating prior knowledge; identifying and addressing misconceptions; strengthening memory and recall (retrieval practice)**.
- Through your reading, data collection and analysis, and reflections on teaching for this assignment, you will develop a professional awareness of how relevant theory can be applied effectively to classroom practice.

Key concepts

Assignment focus	The focus of assignment A is about cognitive load theory and its impact on the way we understand how pupils learn and how teachers teach. The key areas are explored are: • how cognitive load theory is defined in the literature • the importance of eliciting and building on pupils' prior knowledge • identifying and addressing misconceptions • using retrieval practice to boost memory and recall so that learning is retained • the implications for your teaching and children's learning
Lecture links	Cognitive Load Theory (CLT) is an instructional design theory used to explain how the human brain processes and stores information which therefore has implication for how we teach pupils. The desired goal of teaching is that learning and new knowledge is stored in the long-term memory creating a lasting change in pupils' understanding and capability When new knowledge is moved from the working memory and stored in a schema in the long-term memory, the working memory is freed up so that the brain can process new or further learning or link new learning to existing learning Once the working memory is overloaded it is very difficult for the new learning to be processed and moved into the long-term memory. This means that the learning is not lasting
Prior knowledge	Prior knowledge is all the knowledge that a pupil already knows. It is the knowledge a pupil brings to a lesson and uses to make sense of any new learning in that lesson.
Strengthening memory and recall (retrieval practice)	Retrieval practice boosts and strengthens recall and enhances learning by pulling information out of students' heads, rather than cramming information into students' heads. Retrieval practice also helps metacognition as it helps pupils to understand and think about the way that they learn (what scientists call "metacognition")
Misconceptions	Misconceptions are individual beliefs that partly or completely contradict the currently accepted body of research on a given topic

Intended learning outcomes

Knowledge and understanding	• Discuss contemporary issues in education • Identify how to design and implement a small-scale practitioner enquiry
Intellectual skills	• Demonstrate conceptual understanding that enables you to evaluate current educational research and scholarship • Locate appropriate knowledge and understanding from research literature and practice-based evidence to inform their actions • Demonstrate their ability to improve your teaching by using analysis and evaluation information • Demonstrate specialist subject and/or phase knowledge • Demonstrate effective classroom or other professional practice.
Practical skills	• Design a small-scale practitioner enquiry in a reflexive manner, using appropriate data collection methods and adopting an ethical stance, summarising findings clearly and concisely
Transferable skills and personal qualities	• Show originality in addressing an issue • Evaluate your own academic and professional performance (i.e. intended impact on their future practice) • Collaborate with peers, where this offers a useful extension of the process or outcomes of the enquiry without compromising the integrity of the individual's work • Select and use various sources of information to inform educational practice • Demonstrate your ability to improve and adapt their teaching by evaluating it and learning from the effective practice of others, including peers • Demonstrate analytical and evaluative skills to appraise educational literature and other sources of evidence • Demonstrate effective communication skills

Online support

- Harvard referencing guide: <https://subjects.library.manchester.ac.uk/referencing/harvard>
- My learning essentials tutorials: <https://www.library.manchester.ac.uk/training/my-learning-essentials/>
- Acceptable use of AI guidance: <https://manchester-uk.libanswers.com/teaching-and-learning/Taq/264824>
- Library: <https://www.library.manchester.ac.uk/resources/>

Deadlines

The submission deadline for each assignment is midday on the date specified.

PLEASE ensure that you submit your assignment at least 2 hours before the deadline at the VERY LATEST. This is in case of last minute submission problems which could result in late submission penalties.

We advise you to submit a few days before the deadline in case of any submission difficulties.

Submission

- All assignments are submitted electronically through the Turnitin system on CANVAS.
- Go to the Canvas course for the assignment and follow the instructions using the 'submit assignment A' button.
- If you are not sure how to submit, or have difficulties submitting, please contact seed.hub@manchester.ac.uk.

Feedback

You will receive written feedback on your work via Canvas at midday on the return date for each assignment. This is approximately 15 working days after the submission deadline (or 15 days from the date you submitted if this was after the deadline).

Word count

Each assignment is a submission consisting of two elements: a main narrative of 3,000 words and an additional section with no word limit.

The university allows a 10% leeway above the 3,000 word count without penalty, i.e. assignments up to a maximum of 3,300 words are acceptable.

DASS registered students

If you are registered with DASS, (the university disability and support service), then you may have been given an automatic one-week extension on each assignment submission date. If you have any ongoing mental, emotional or physical health issues that might affect your PGCE studies, please make an appointment with DASS and register as soon as possible.

Core reading

Bates, G., Shea, J. (2024) Retrieval Practice "in the wild": teachers' reported use of retrieval practice in the classroom. *Mind, Brain, and Education* 18:3. <https://doi.org/10.1111/mbe.12420>

Centre for Education Statistics and evaluation (2018) *Cognitive load theory in practice*. Sydney: NSW Department of Education.

Coe, R., Rauch, C.J., Kime, S., Singleton, D. (2020) Great teaching toolkit: evidence review. <https://www.cambridgeinternational.org/images/584543-great-teaching-toolkit-evidence-review.pdf>

Deans for impact: The science of learning: <https://deansforimpact.org/wp-content/uploads/2015/12/The-Science-of-Learning.pdf>

ITTECF Standard 2: How children learn

Muijs, D. (2020) Cognition, learning and educational research. *Impact magazine*, Chartered college of teaching, Issue 8.

Level: PG – FHEQ Level 7

Credit rating: 20 credits at Masters level if marked at 50% or higher; PGCE pass at 40%, fail at 38% and below.

Assignment structure

Introduction and rationale (200 words)

- Two short paragraphs to introduce the main concepts.

School context overview (100 words)

- A succinct overview of the school and class context.

Literature review (800 words)

- Explain how the literature defines 'cognitive load theory'.
- Evaluate the literature you have read relating to the educational theories of **all three focus areas**:
 1. *eliciting and activating prior knowledge*
 2. *identifying and addressing misconceptions*
 3. *strengthening memory and recall (retrieval practice)*

Ethical considerations (300-350 words)

- Show how you conducted this enquiry in an ethical manner.

Data collection methods (100-150 words)

- Say which focus area you have chosen for your data collection and analysis.
- Briefly explain in this section how you collected data for your project.

Data, analysis, findings (1,300 words)

- Present and analyse from the two ITAP tasks: interview and observation.
- Explain how and why the data you collected have made you think more deeply about the focus area you selected.

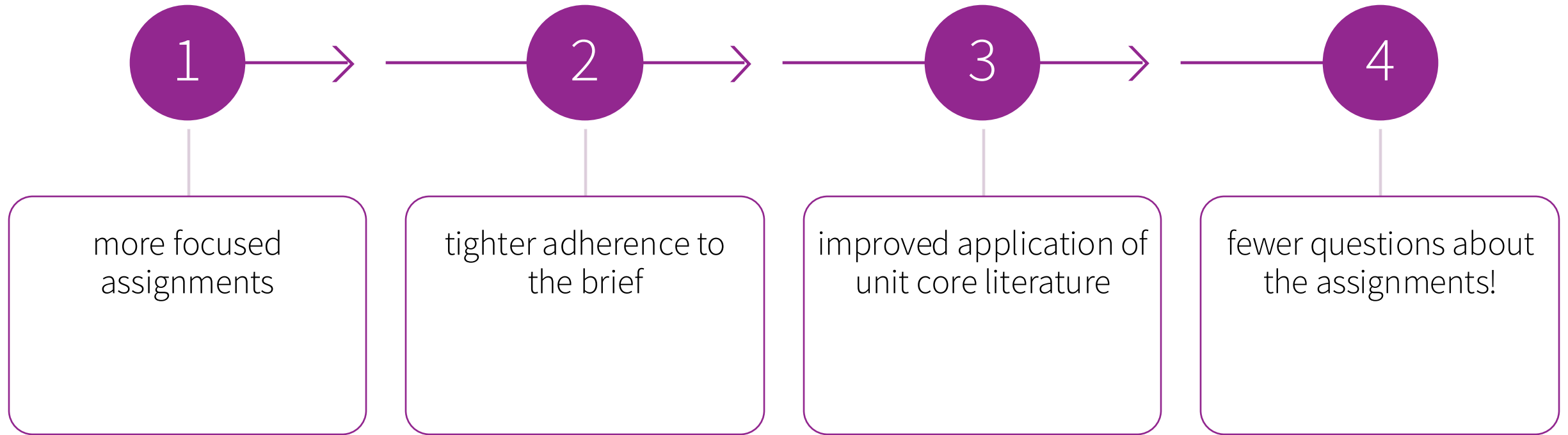
Conclusion and Impact on your future practice (200 – 250 words)

- Return to the key points you presented in the introduction and summarise what you have concluded about them from analysing your data. Explain how this assignment will impact on your teaching practice.

Checklist before submission

- Make sure you have completed and included the cover sheet at the start of each assignment
- Use an academic font style (e.g. Calibri, Times New Roman, Arial)
- Use 1.5 line spacing
- Insert **page numbers**
- Write the total number of words (out of 3,000) on the cover sheet
- Write in the first person (as the assignments relate to your own experiences, reflections, evaluations and observations from practice)
- Write using the grammar of Standard English
- If using sub-headings, check for consistency.
- Use Harvard referencing (**NOT** footnotes) - follow this guidance: <https://subjects.library.manchester.ac.uk/referencing/harvard>
- Write the references list in alphabetical order (according to the Harvard guide)
- Ensure all names of teachers, children and schools are anonymised
- Make sure you have anonymised yourself so that you can't be identified as the author of the assignment

Intended impact



Next steps

1

Consolidate all subject DDs into a booklet / pack for trainee teachers

2

Produce clear instructions for 'how to use....'

3

Use consistently in all taught sessions

4

Roll out to partnership schools

5

Explore publication to reach a wider audience

6

Pilot use for EDUC66900 in September

**Thanks for
listening!**

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