



University of
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Whose curriculum is it anyway?

*How do our individual experiences
and values interact to define our
views of what mathematics is?*

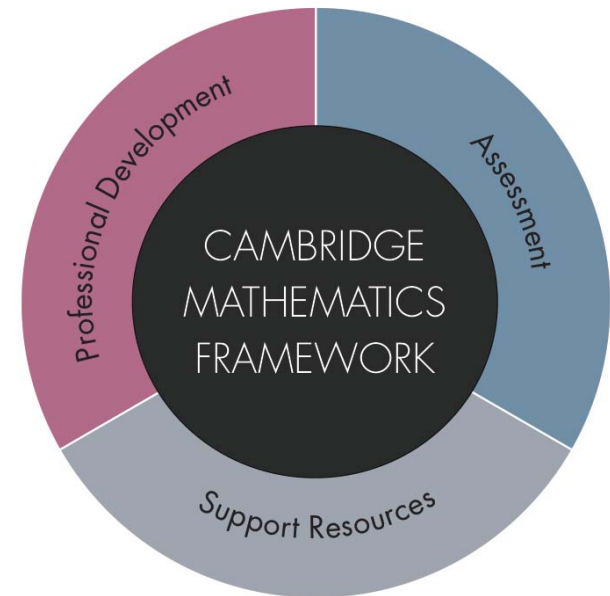
Geoff Wake

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Coherent and integrated

The four integrated elements of Cambridge Mathematics are:

- the Cambridge Mathematics Framework, the content spine to which the other elements will link
- resources, both paper based and electronic
- a coherent formative and summative assessment offer
- a professional development framework encompassing both subject and pedagogical knowledge



A manifesto for Cambridge Mathematics (2015)

The Framework will:

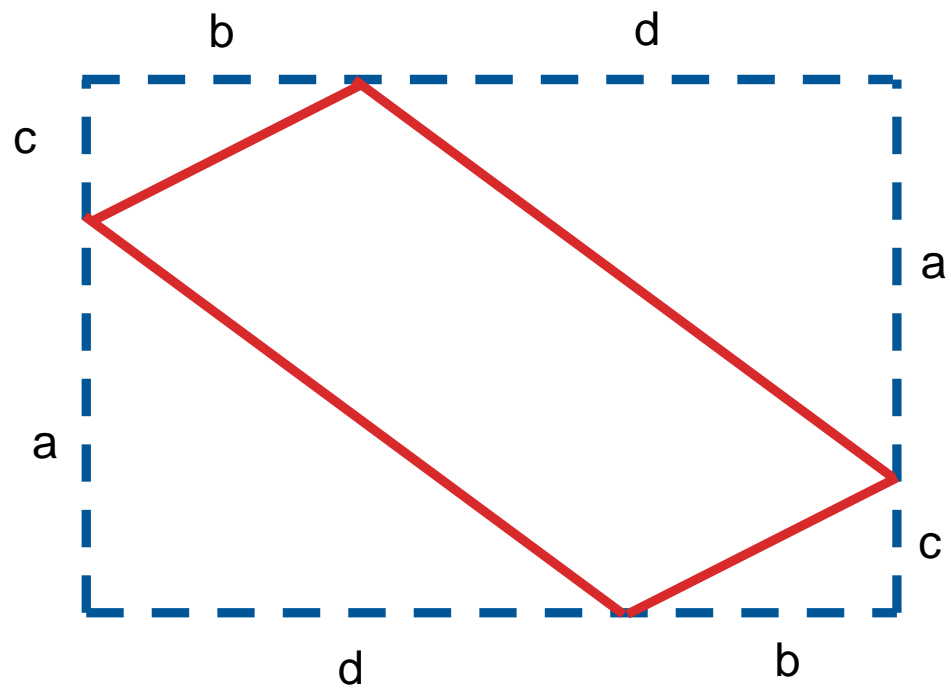
- **be a map of the full domain of mathematical knowledge** from pre-school to the end of the upper secondary phase of education and training arrangements
- be loosely age-related and based on progressions in organising concepts and principles
- be the basis for different curriculum pathways which will flesh out a more detailed hierarchy
- be a basis for deriving standards
- **be illustrated by indicative content and exemplar performances**

A manifesto for Cambridge Mathematics (2015)



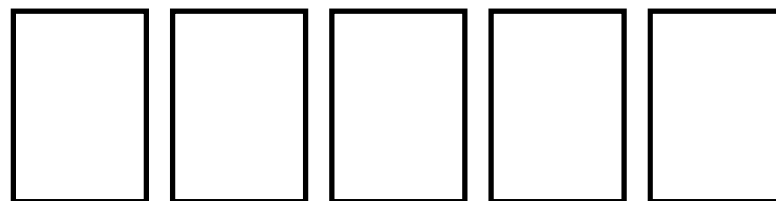
The Framework will:

- be evidenced both from the study of a range of mathematics curricula and mathematics assessments, and from a theoretical perspective of conceptual progression
- **allow for the description of skills and dispositions necessary for effective use of mathematics**



Show that the area of the parallelogram = $(a \times b) \times (c \times d)$

averages



for what values of k does the generalisation

$$3 \quad k \quad k \quad (2k - 6) \quad (3 + k)$$

give five numbers
with median = mean = mode = range = k ?

The mass of a 10p coin is 6g.

The mass of a 10p coin together with a 5p coin is 10g.

A number of 10p coins and 5p coins altogether have a mass of 60g.

How many 10p and how many 5p coins could there be?








Have you found all the different possibilities?

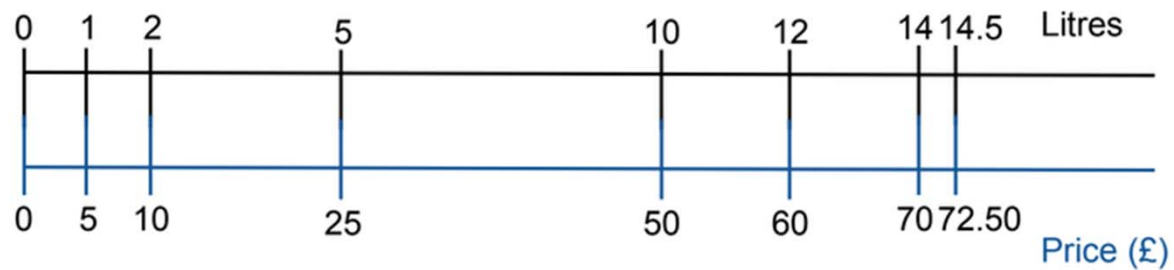


PAINT PRICES

Calculate the missing prices of the paint cans below. The prices are proportional to the amount of paint in the can.



2 litres	5 litres	11 litres	14.5 litres
			
PAINT	PAINT	PAINT	PAINT
£10	£...	£...	£...



Social group | Industrial
trainer | Technological
pragmatist | Old humanist | Progressive
educator | Public
educator

Ernest (1991)

Social group	Industrial trainer	Technological pragmatist	Old humanist	Progressive educator	Public educator
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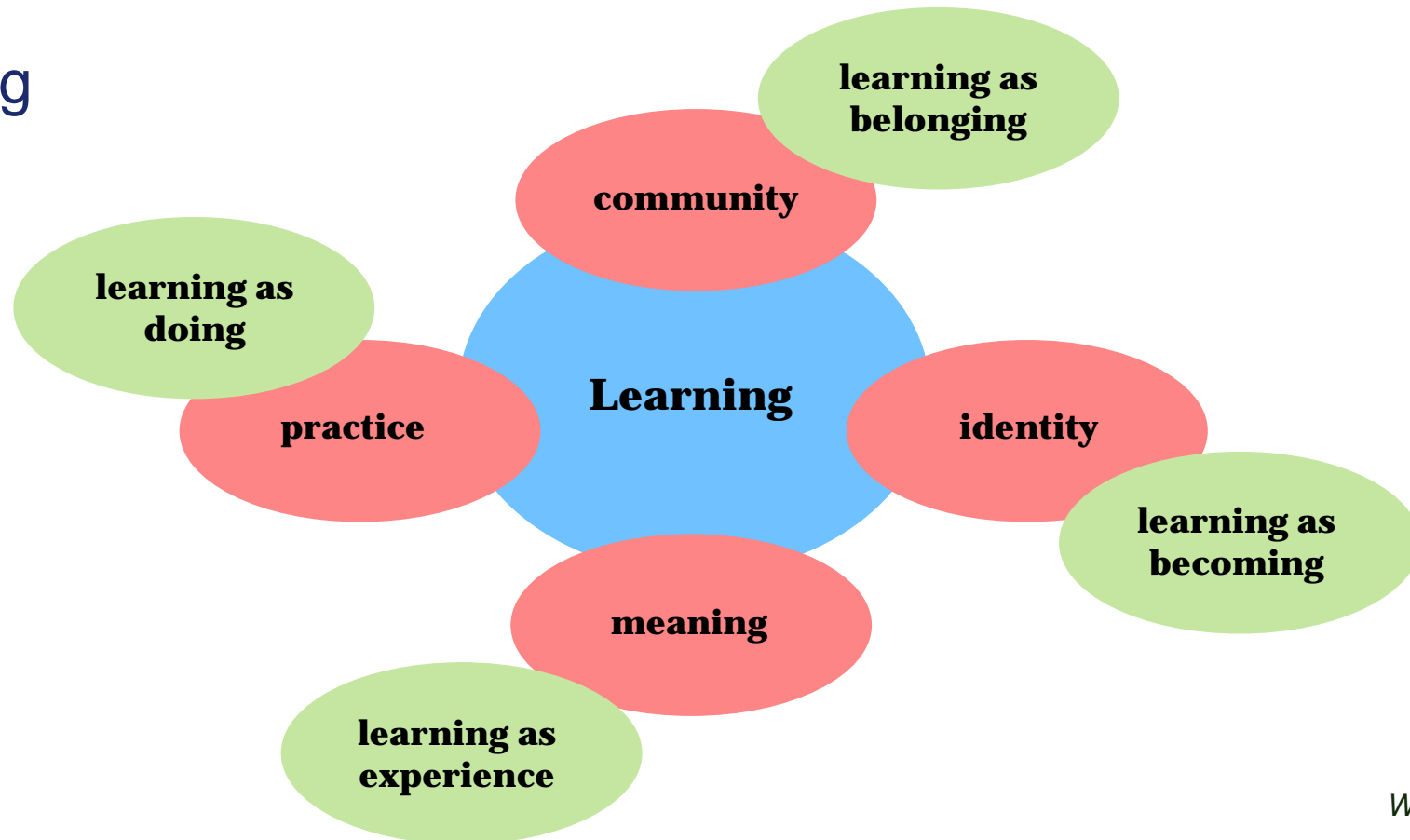
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Theory of Resources	chalk-and-talk	Hands-on technology	Visual aids	Rich environment	Authentic

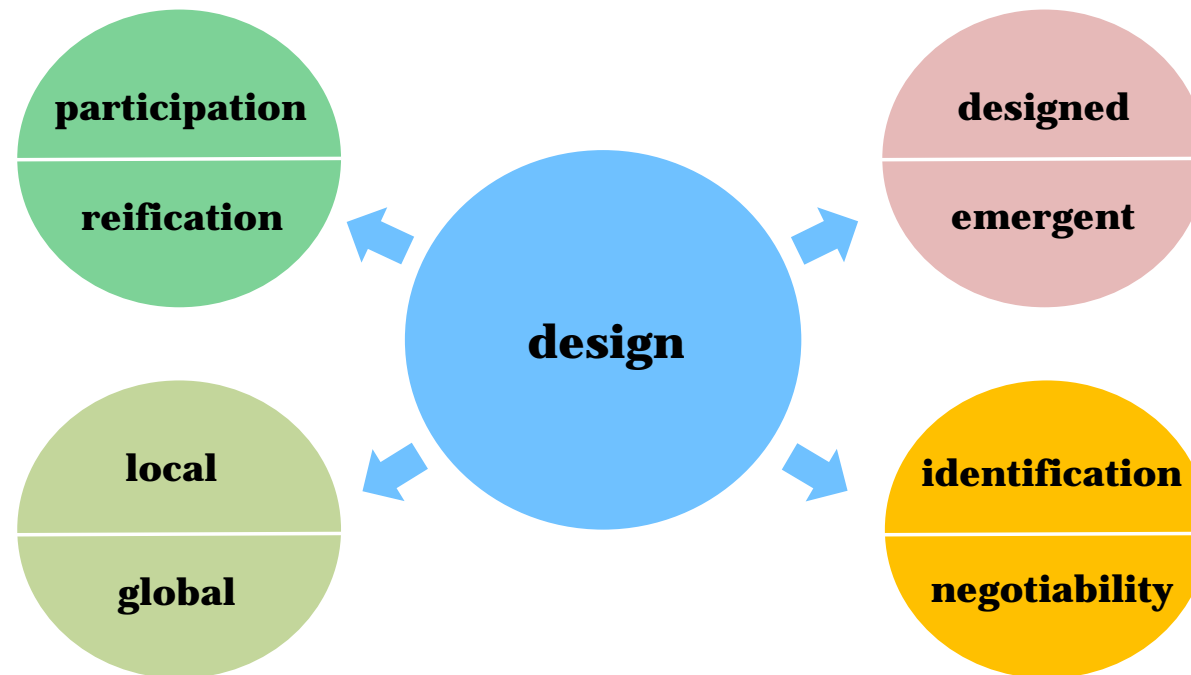
Ernest (1991)

Learning



Wenger (1998)

Design for learning



Wenger (1998)

A photograph of a modern university building at dusk. The building is white with large glass windows and a central clock tower. The sky is a deep blue with some clouds. In the foreground, there is a body of water reflecting the building and the sky. A walkway with a railing is visible on the left side of the image.

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*....and what a “mathematics
framework might be?”*