

Helping students with the vocabulary of their maths lectures: EAP & maths collaboration

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The challenge for students

of this type and function of x raised to a **power**, which is also a function of x .
occurrences of a function of x raised to a **power**, which is another function of x .
Well, it's this factor here, sine of x to the **power** log of x , what is the derivative
as complicated as this sine of x to the **power** log of x , we can work out the

What is 2^3 equal to?

What is two raised to the power of three equal to? Two raised to the power of three is equal to eight.

Why collaborate to create vocabulary-learning materials?

Framework to evaluate our language-learning materials: 4 strands of a complete language-learning programme (Nation, 2007):


meaning-focused input, language-focused learning (meaning, form and use), meaning-focused output, fluency practice

EAP specialists: pedagogical knowledge to create effective tasks + corpus /keyword list creation + language-focused learning strand e.g., (spoken) form

Subject specialist: meaning and precise use of technical STEM vocabulary + practice in other 3 meaning-focused strands

How did we collaborate?

Creation of a 202-word pedagogical keyword list

derivative	\dI'rivətIv\ 	n.	导数	The derivative of a function measures its rate of change and is denoted as \(f'(x)\) .
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How did we collaborate? Example tasks

EAP – Spoken form

Dictation: identifying technical words in connected speech

[Teacher says] *What **arclength** means is the length along a curve.*

Maths - Spoken form, use and meaning

Dictation: utilising the multi-semiotic nature of mathematics – transforming speech into notation

[Teacher reads] *q tends to 1 plus the square root of 9. All of it divided by two, as a tends to 0.*

[Students write]

$$q \rightarrow \frac{1 + \sqrt{9}}{2}, \text{ as } a \rightarrow 0$$

References:

Nation, P. 2007. The four strands. *International Journal of Innovation in Language Learning and Teaching*. **1**(1), pp.2-13.