

# Emotions in Chemistry

		Emotional Valence	
		Positive	Negative
Activating Potential	Activating	Curiosity Enjoyment Hope	Surprise Confusion Anxiety
	Deactivating	Satisfaction Relief	Pride Shame Boredom Hopelessness Frustration

Based on Pekrun (2006) & Pekrun et al (2017)

**Kate's group interview activity**

it would be good for students to realise negative emotions are not necessarily bad

**Emotion on the curriculum**

literature on academic emotions

**Emotion better explored in student experience surveys**

# 'Using emotion to learn effectively in chemistry' teaching

A two-part interactive lecture within year 1 module i-Engage

## How learning happens

- Constructivism
- Johnson's Information processing model
- Cognitive load theory



## Part 1

- How learning happens
- Control-Value theory
- Achievement and epistemic emotions
- Activation potential vs. emotional valence
- Neurochemistry!

## What did you learn?

“perceived negative emotions may be activating when it comes to productive work”

“a certain level of stress can optimise task performance”

## Part 2

- Emotion regulation, RULER tool
- Mood meter - 100 emotions!
- Yerkes-Dodson law, unpacking 'stress'
- Cultural background
- Where learning happens (ZPD)

“there are several factors that influence your emotional experience, and there are ways you can take control of these to enhance learning”

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## How will it be useful to you?

## Part 2

- Emotion regulation, RULER tool
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- Cultural background
- Where learning happens (ZPD)

"I will be able to apply RULER to my learning to help recognise my emotions"

"It's nice to have so many words available"

"enable me to be more receptive in group settings"

"It reassures me that it is OK to be stressed sometimes. It has also encouraged me to reflect on myself and my own actions rather than comparing myself to others"

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## Anything appear not useful?

"Not really, I feel very grateful to have had an opportunity to explore different emotions connected to learning that aren't simply to do with the academic consequences of my work and that are more to do with productivity and somewhat feeling on top of things"

"I actually found everything thoroughly useful"

## Part 2

- Emotion regulation, RULER tool
- Mood meter - 100 emotions!
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- Where learning happens (ZPD)

"I wouldn't say that there are techniques in there that are not that useful. I just haven't found the specific application for them yet"

# Academic emotions in Y3 vivas experience surveys

Surveys of year 3 students' synoptic vivas experiences to inform course development decisions

**“How stressful are the vivas really?”**



**Before the vivas - 12-7 days before, and  $\leq 4$  days before**

- I expect to enjoy the vivas
- I am optimistic the vivas will be fine
- I expect to be proud of myself
- I am angry about the vivas
- I am very nervous about the vivas
- I feel hopeless

**4-10 days after the vivas**

- I enjoyed the vivas
- I am proud of myself
- I feel relief
- I am angry about the vivas
- I feel embarrassed
- I feel hopeless

R. Pekrun, T. Goetz, W. Titz, R.P. Perry (2002), *Educational Psychologist*, 37:2, 91-105, DOI: [10.1207/S15326985EP3702\\_4](https://doi.org/10.1207/S15326985EP3702_4)

R. Pekrun, T. Goetz, A.C. Frenzel, P. Barchfeld, R.P. Perry (2011), *Contemporary Educational Psychology*, 36:1, 36-48, DOI: [10.1016/j.cedpsych.2010.10.002](https://doi.org/10.1016/j.cedpsych.2010.10.002)

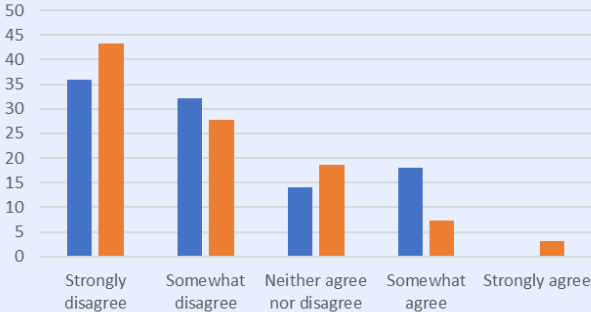
M. Bieleke, K. Gogol, T. Goetz, L. Daniels, R. Pekrun (2021), *Contemporary Educational Psychology*, 65, 101940, DOI: [10.1016/j.cedpsych.2020.101940](https://doi.org/10.1016/j.cedpsych.2020.101940)

# Academic emotions in Y3 vivas experience surveys

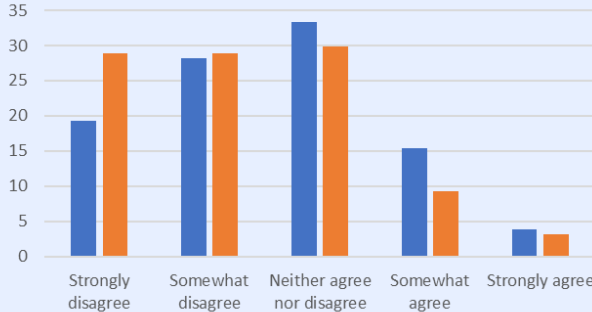
Surveys of year 3 students' synoptic vivas experiences to inform course development decisions

## How are you feeling (now) about the vivas?

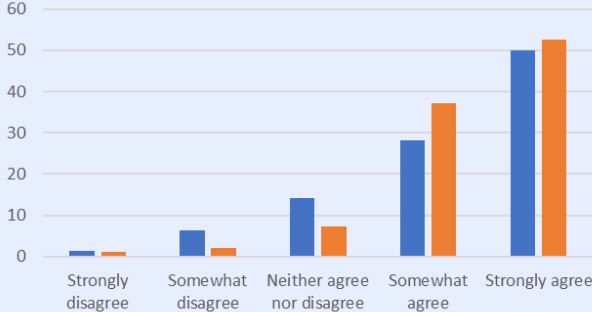
I expect to enjoy the vivas



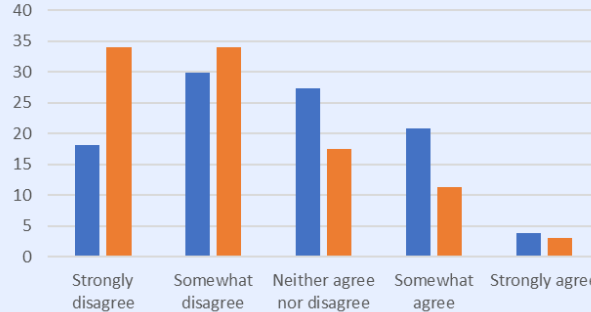
I expect to be proud of myself



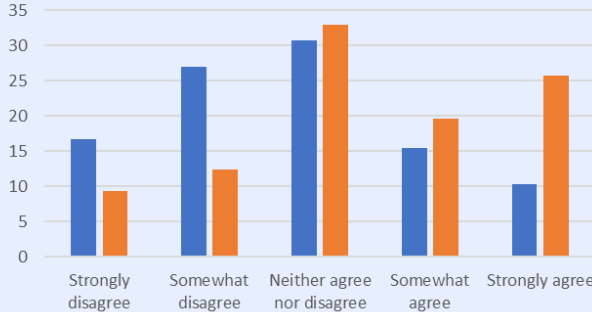
I am very nervous about the vivas



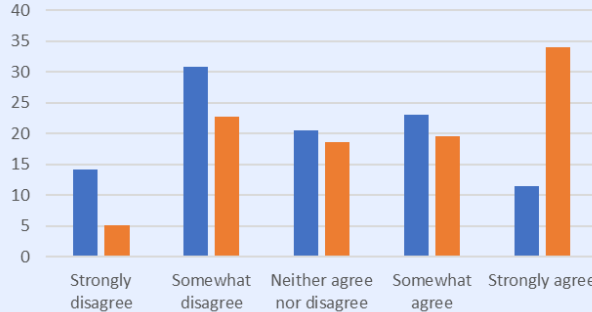
I am optimistic the vivas will be fine



I am angry about the vivas



I feel hopeless

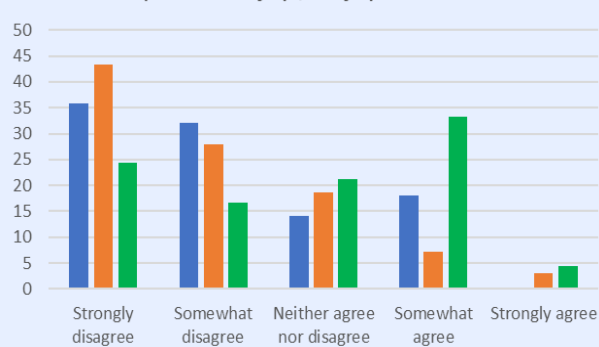


12-7 days before, ≤4 days before

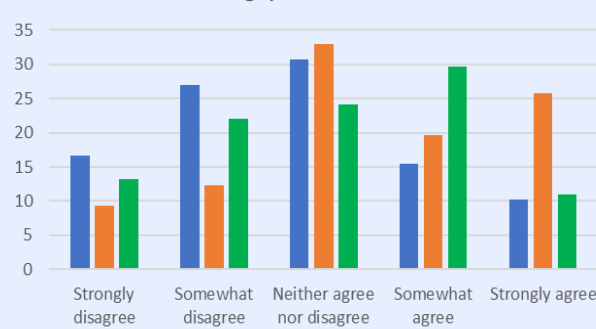
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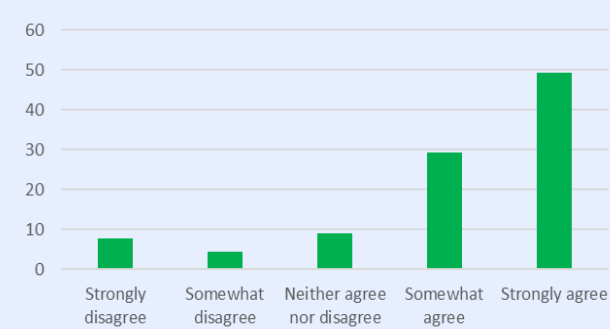
I expect to enjoy / enjoyed the vivas



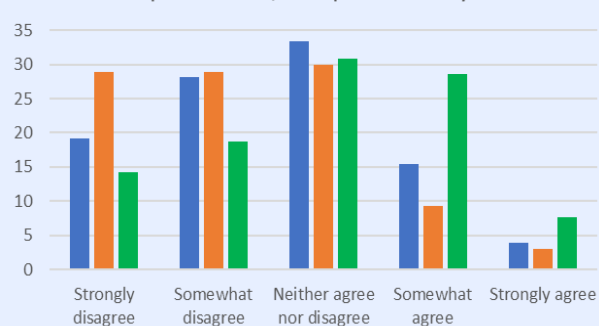
I am angry about the vivas



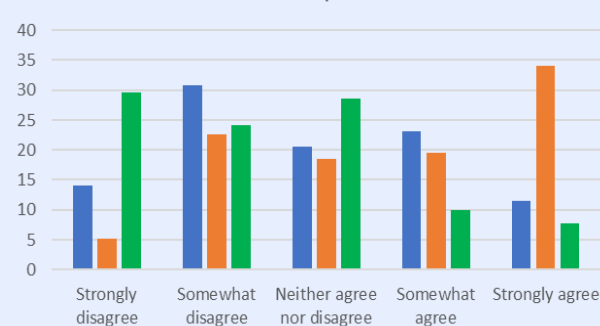
I feel relief



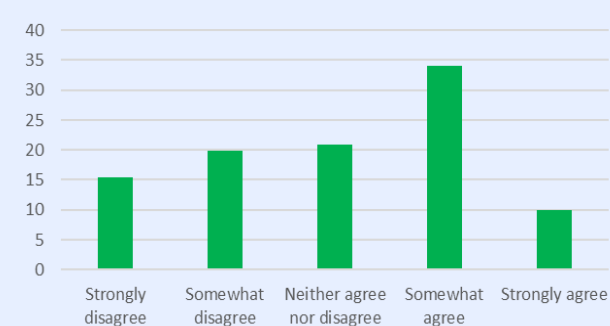
I expect to be / am proud of myself



I feel hopeless



I feel embarrassed



4-10 days after

moved the discussion (somewhat) beyond just 'how stressed'