



Engineering Professors COUNCIL

The voice of engineering academics

Neuro-inclusion maturity framework Workshop 2: 25th July 2024

30 YEARS
1994-2024



Today's aims

- Share the project vision
- Share the methodology for developing the framework
- Share the outcomes from the co-design workshop at the Dyson Institute on 20th June
- Take feedback and contributions on:
 - Whether you think this is headed in the right direction
 - How this can be made most useful for you / us
 - Links to great resources already out there
 - How you'd like to contribute to this work and what you'd like to gain from it
- Next Steps, and how to be involved



EPC's vision for neuro-inclusion

- The Engineering Professors' Council (EPC) is the "voice" of engineering in UK HE and provides a forum for exchange of ideas about engineering education, research and other matters of common interest.
- Brings the Engineering Academics Network community together to provide an influential voice and authoritative conduit through which engineering departments' interests can be represented.
- EPC recognises that neurodiversity is a prominent feature of the engineering education landscape and has developed a roadmap to pursue neuro-inclusion.



EPC neuro-inclusion activities



Support



Identify



Define



Challenge



Support: Co-design maturity framework

Define maturity framework for neuro-inclusion

How can we better support our students in engineering? What does good look like? Can we develop a flexible roadmap for change?

Identify: Small-scale trait based survey of Engineering students and staff as an evidence base for funding bids and inform profiling

Measure neurodivergence of Engineering students and staff.

How neurodiverse are engineers?

Define: Large-scale profile screening to identify common traits

Develop a cognitive profile of strengths and challenges among Engineering Students and staff

Can we define a cognitive profile of strengths and challenges for engineers?

Challenge: Inclusive curriculum and pedagogy

Review of pedagogical approaches through neuro-inclusion lens.

Are sector-defined New Approaches in Engineering suitably neuro-inclusive in approach? Can the curriculum be universally designed?



Support



Identify

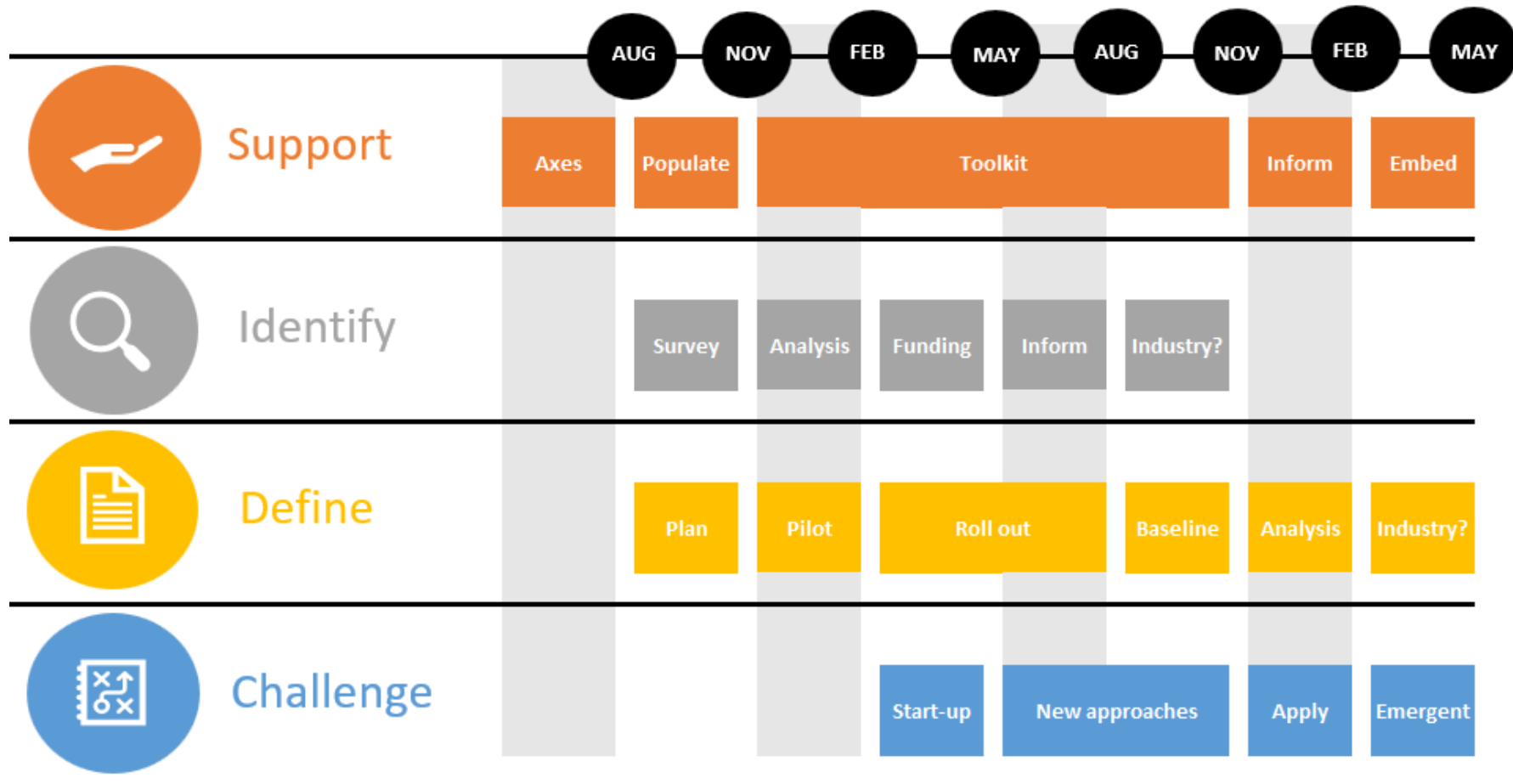


Define



Challenge

EPC neuro-inclusion activities

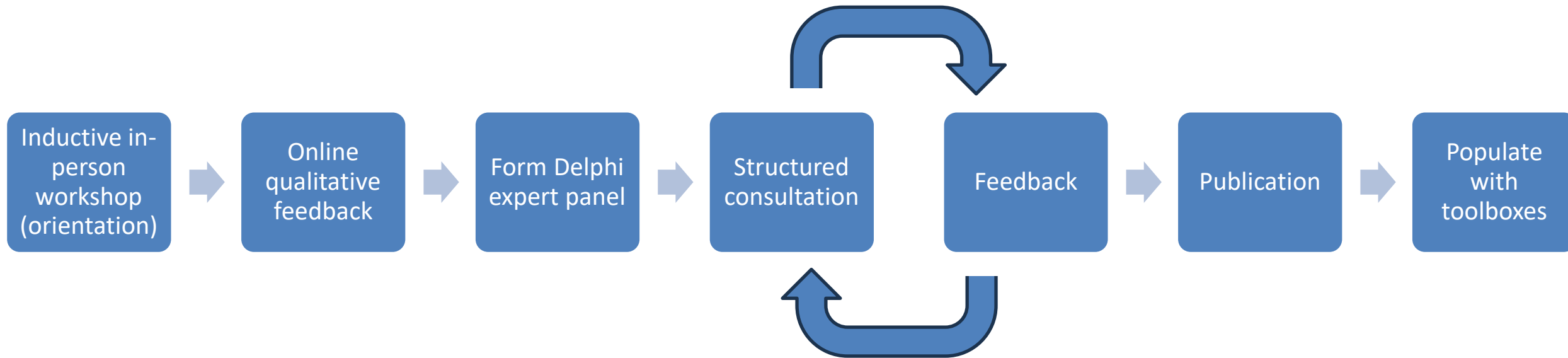


Maturity frameworks

- ...a framework for measuring an organization, function or department
- Maturity models allow organisations to:
 - break down a large, complex challenge into achievable steps
 - focus energy and resources
 - work out what their aims are
- This process used a ‘bottom-up’ inductive process that started on 20th June
- Delphi process to build consensus
- Working towards a framework overlaid with toolboxes



Reaching consensus



Maturity framework vision

	Dimension 1	Dimension 2	Dimension 3	Dimension 4
Domain A	Toolboxes Resources Links	Toolboxes Resources Links	Toolboxes Resources Links	Toolboxes Resources Links
Domain B	Toolboxes Resources Links	Toolboxes Resources Links	Toolboxes Resources Links	Toolboxes Resources Links
Domain C	Toolboxes Resources Links	Toolboxes Resources Links	Toolboxes Resources Links	Toolboxes Resources Links
Domain D	Toolboxes Resources Links	Toolboxes Resources Links	Toolboxes Resources Links	Toolboxes Resources Links

Sustainability Toolkit

Welcome to the EPC's Sustainability toolkit, produced in partnership with Siemens and the Royal A...[\[Read More\]](#)

#Accreditation and standards
#Diversity & inclusion
#Employability and skills #Ethics
#Interdisciplinarity #Sustainability
#Sustainability toolkit
#Teaching & learning
#Work-related learning

5 Jun 2023

Enterprise Collaboration Toolkit

Welcome to the EPC's Enterprise Collaboration Toolkit - formerly known as the Crucible Proj...[\[Read More\]](#)

#Employability and skills #Industry
#Knowledge exchange
#Recruitment & admissions #Research
#Teaching & learning
#Work-related learning

30 Mar 2022

Engineering Ethics Toolkit

Welcome to the EPC's Engineering Ethics toolkit, produced in partnership with the Royal Academy o...[\[Read More\]](#)

#Accreditation and standards
#Assessment #Diversity & inclusion
#Employability and skills #Ethics
#Interdisciplinarity #Sustainability
#Teaching & learning
#Work-related learning

21 Feb 2022

Intellectual Property Toolkit

The IPO has provided us with a guide to patents, trade marks, copyright or design: how intellectu...[\[Read More\]](#)

#Professional recognition #Research
#Teaching & learning

2 May 2018



EPC Degree Apprenticeships Toolkit



Placements Toolkits

Our two Placements Toolkits (previously Contextual Learning Toolkits) address the



Accreditation and Quality Assurance Toolkit



Curriculum Development and Teaching Innovation Toolkit

Orientation workshop 20th June

- Full day inductive workshop
- 45 attendees from 11 institutions
 - 13 professional services
 - 12 academics
 - 20 neurodiverse students
- Used a bottom-up process :
 - great practices or experiences of feeling included and supported
 - challenges, barriers and frustrations
 - forming these into themes and frameworks



DIMENSIONS

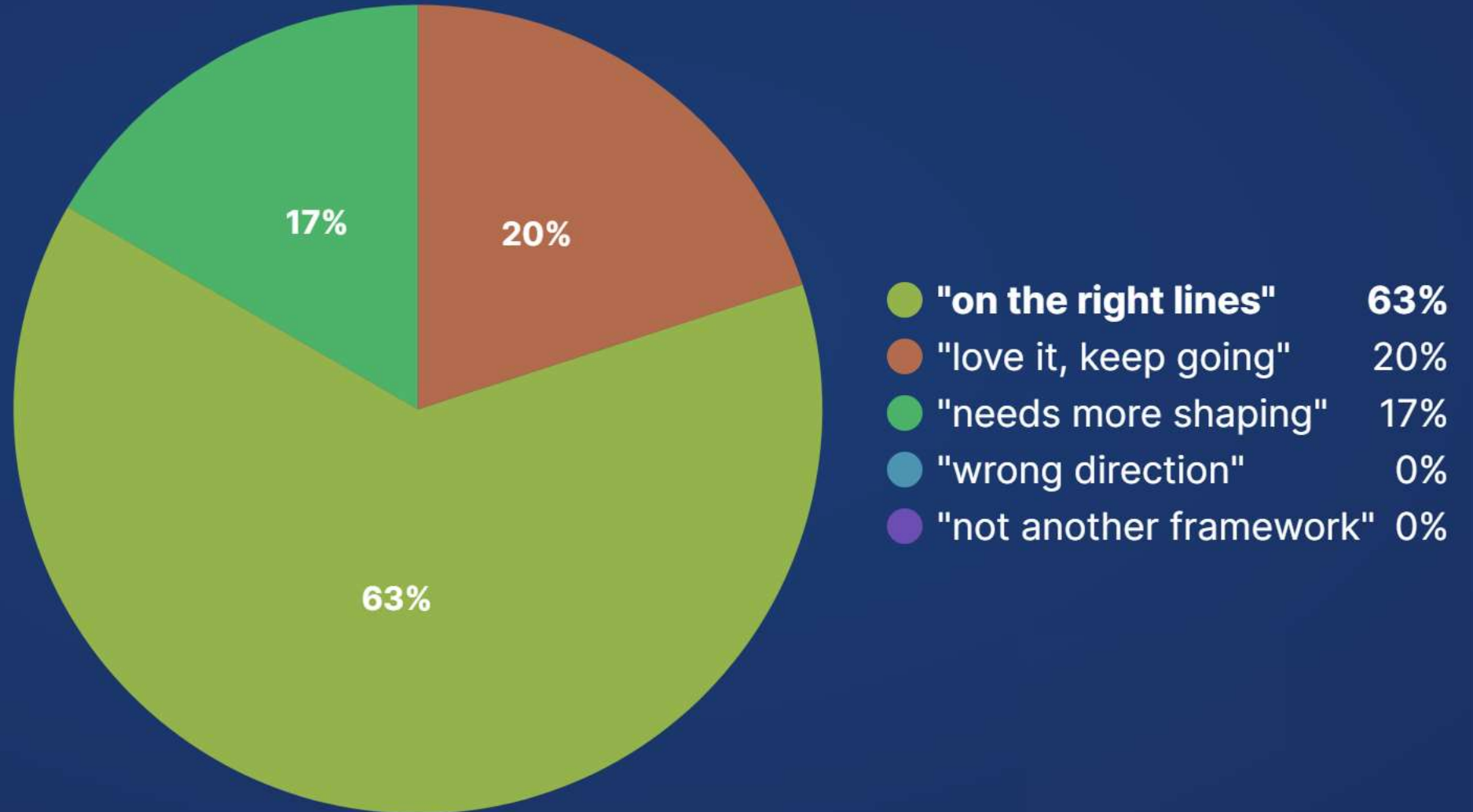
DOMAINS

			AD HOC	REACTIVE	CONSISTENT	PROACTIVE	LEADING
DOMAINS	Resources & Funding	finance; human resources; disability services; student support; mentoring	Disability services have up-to-date knowledge on the law regarding neuro-inclusion in HE	University has legally compliant mechanisms for accommodating difficulties in NHS diagnosis e.g. 'reasonable evidence' or private diagnostic routes	Student support service levels that are 'guaranteed'	Strategically aligned and sustainable funding streams and structures for resource allocation to support neuro-inclusions	University has, and deploys, standardised guidelines, frameworks and templates for preparation of neuro-inclusive materials information, assessment etc
	Curriculum, Pedagogy & Assessment	choice of different engagement mechanisms; embracing different learning styles; modes of study; flexibility in lab engagement; choice of assessment format; how students are communicated with/to; assessment design; peer review; collaborative working; curriculum content on empathy building and benefits of cognitive diversity	Turnaround times for marking are met Time management for students is taught explicitly Extra time for exams	Students are able to get all the clarity they need in completing assessments Peer review processes in group activities are not inherently discriminatory	All clarifications issued to students are key in one place (Rather than across announcement emails, lectures, VLE pages) Clear assessment briefs and standardisation of assessment formats within a course Clear calendar of assessments across an academic year	Multisensory learning resources are built into curriculum design processes Tight coupling of theory and application	Structured group interactions with supportive tools, templates and processes, and thoughtful distribution of students including emotional profiling Teaching orientations include material on how ND students actually learn Some discretion over groupwork (or not)
	Physical Environment & Technology	spaces; sensory issues; lecture capture/technology; assistive tools and software	Space labelled 'quiet' are maintained as being quiet Lecture capture meets minimum quality requirements (e.g. audible without background noise) Tolerance/funding for noise-cancelling headphones	Staff able to secure quiet spaces for 'struggling' students Students are allowed to eat during sustained activities "LET US EAT"	Lecture capture for all lectures Staff use microphones	Sensory spaces available Study spaces that have some segmentation to negate feelings of being watched	Availability of solo quiet spaces (e.g. partitions) with adjustable sensory environment En-suite living accommodation
	Student Journey & Transitions	special attention to transition points; opportunities for acclimation; impact of silos; clear expectation management; fragmentation of services; predictability in student journey; outcome - gaps in continuation and progression; being attractive to ND applicants; admissions processes that do not disadvantage ND applicants	Different services talk to one another in a way that supports students Freshers fair has quiet times for ND students to make it easier to navigate without overwhelm	Students are clearly signposted to relevant contact points and are empowered to reach out in whichever circumstance Quick and easy access to student welfare and statements of reasonable adjustments	Support bubbles with neuro-inclusion champions Drop-ins available with ND support staff	Predictability is built into student journey Preparation of individual support plans to help students navigate potential overwhelm that are read by academics	Peer support and mentoring built into student journey Quiet spaces at big society socials (with stim toys) Autism summer school - one day event in Summer to kick off a more graduated transition in
	Vision & Culture	leadership; staff training; students having meaningful voice; feeling of belonging; networks; awareness of ND as a concept; language - how we talk about ND and the worlds we use	Academic staff set out expectations about asking and answering questions, and how they can be contacted Students never have to rely on verbal instruction alone	Students not being shamed for being quiet, 'too high energy', or the butt of jokes by staff ND students not being treated as their was something wrong with them - real inclusion, trusted as equals	All student-facing staff are trained in modern reality of ND, accept that ND is real, adjustments are necessary, and do not conflate ND with laziness or lack of intelligence Academics role model their own rules and expectations	All students are equipped to work productively with ND peers and do not revert to stereotypes, bias or judgement in interpreting behaviour Staff with lived experience confidently share their journey Student voice is included in design practice by trained listeners	EDI fora with clear understandings, mandates, outputs and outcomes University/Faculty has strategies for catering for opposing needs in student body





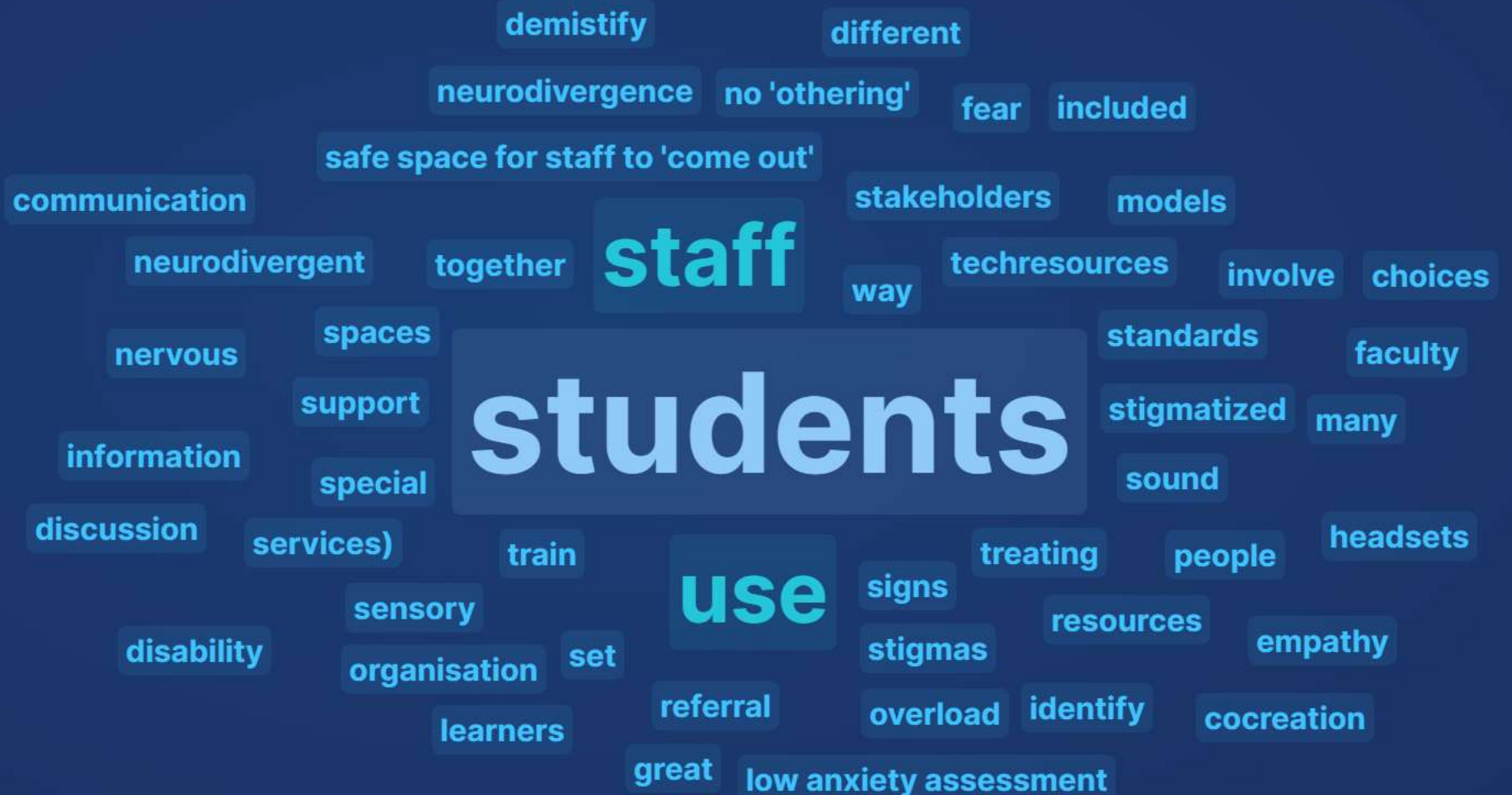
Quick reaction to the Framework, are we on the right track?



Join at
slido.com
#2851 365



What have we missed? What else could we do to enhance our approach?



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#2851 365



What resources would make this more/most useful? (e.g. photos, case studies, something else?)

Join at
slido.com
#2851 365





Stella Fowler • 1m

Interactive - People and things we know are great (stakeholder resources, good practice resources, other signposting).

Vote up resources you know are good or sound great. Be creative, add stuff your way. Please add links where possible.

For academics

+

Stella Fowler 1m

Teaching toolkits

ucl.ac.uk a Centre

Supporting neurodiversity in education


👍 0 👎 0

+ Add comment

For students

+

Stella Fowler 1m



myfoothold.org

Support with learning differences


👍 0 👎 0

+ Add comment

For professional services

+

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ahead.ie

I Work in Education

👍 0 👎 0

+ Add comment

For everyone

+

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theiet.org

IET report on neurodiversity in engineering and technology

👍 0 👎 0

+ Add comment

Contribute: <https://bit.ly/AllInForEngineering>:

 Padlet	 Upload	 Link
 Camera	 Video recorder	 Audio recorder
 Screen recorder	 Draw	
 Poll New	 Google Drive New	 I can't draw New
 Talk for me New		
 Image search	 GIF	 YouTube
 Spotify	 Web search	 Location



Participate:

- What can you contribute?
- What would you like to gain?
- <https://bit.ly/EPCcontribute>



:Padlet

Stella Fowler • 1m

Please think of one thing you can contribute, and one thing you could gain from this work

Something tangible that will help you / others... Think about supporting materials that could be accessible from the maturity model.

What you can
contribute...

What you would like
to gain...

Add section

Thank you and next steps

- Thanks so much for your input
- Select our Delphi expert panel – if you're interested, complete this form
 - <https://epc.ac.uk/event/all-in-for-engineering-co-designing-a-neuro-inclusive-future-2/>
 - Hoping to have finalized a framework by September, subject to being able to find student panellists (please nudge!)
- Do you see this as a community? If you do, it needs leaders – if you're interested, please stay on the call

