Co-creating a decolonised Bioscience curriculum

A MODULE AT A TIME AND COLLABORATIVELY

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A simple (?) question

Belonging = success

- Students who felt they belong to their institution had a great experience

Connection and belonging go hand in hand with great experiences.

Overall, how much do you feel you belong at your university? Overall, how would you rate your experience at your university?

Academic success is viewed as a core university value.

What values do you think are the most important for your university to uphold?

The State of Connected Student Report, Salesforce, 2022

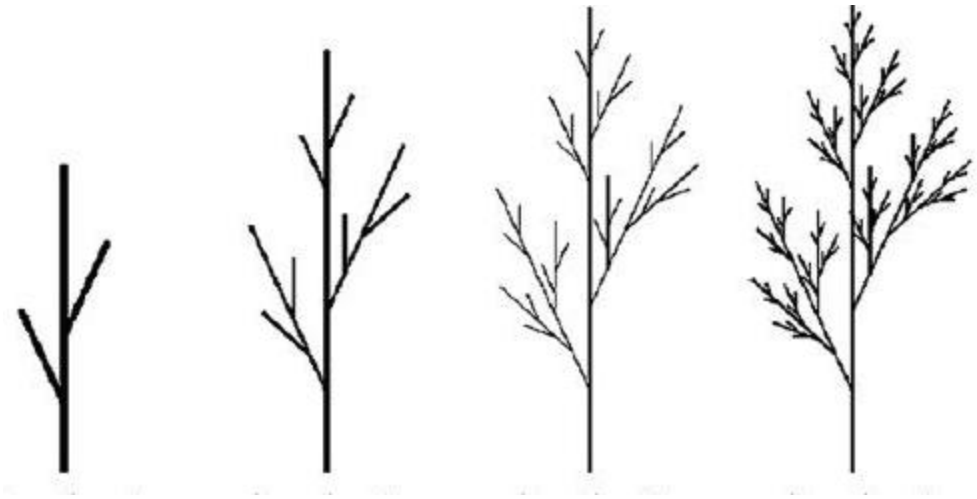
What is decolonisation?

- Can mean different things depending on where in the world you are, or the context.

One broader definition is:

Decolonisation is the process of:

- iteratively, critically examining and dismantling
- colonial biases, influences, constructs in systems (such as education)
- to restore and integrate diverse, historically marginalised perspectives.



https://neurotectura.com/2025/05/02/designing-for-survival-architecture-in-the-age-of-climate-crisis/

What is decolonisation?

Eurocentric, narrowly focused curriculum

- Contribute to narrow thinking
- Limiting sources of knowledge
- Handicapping students for the future

exploration, exploitation, resistance, and healing

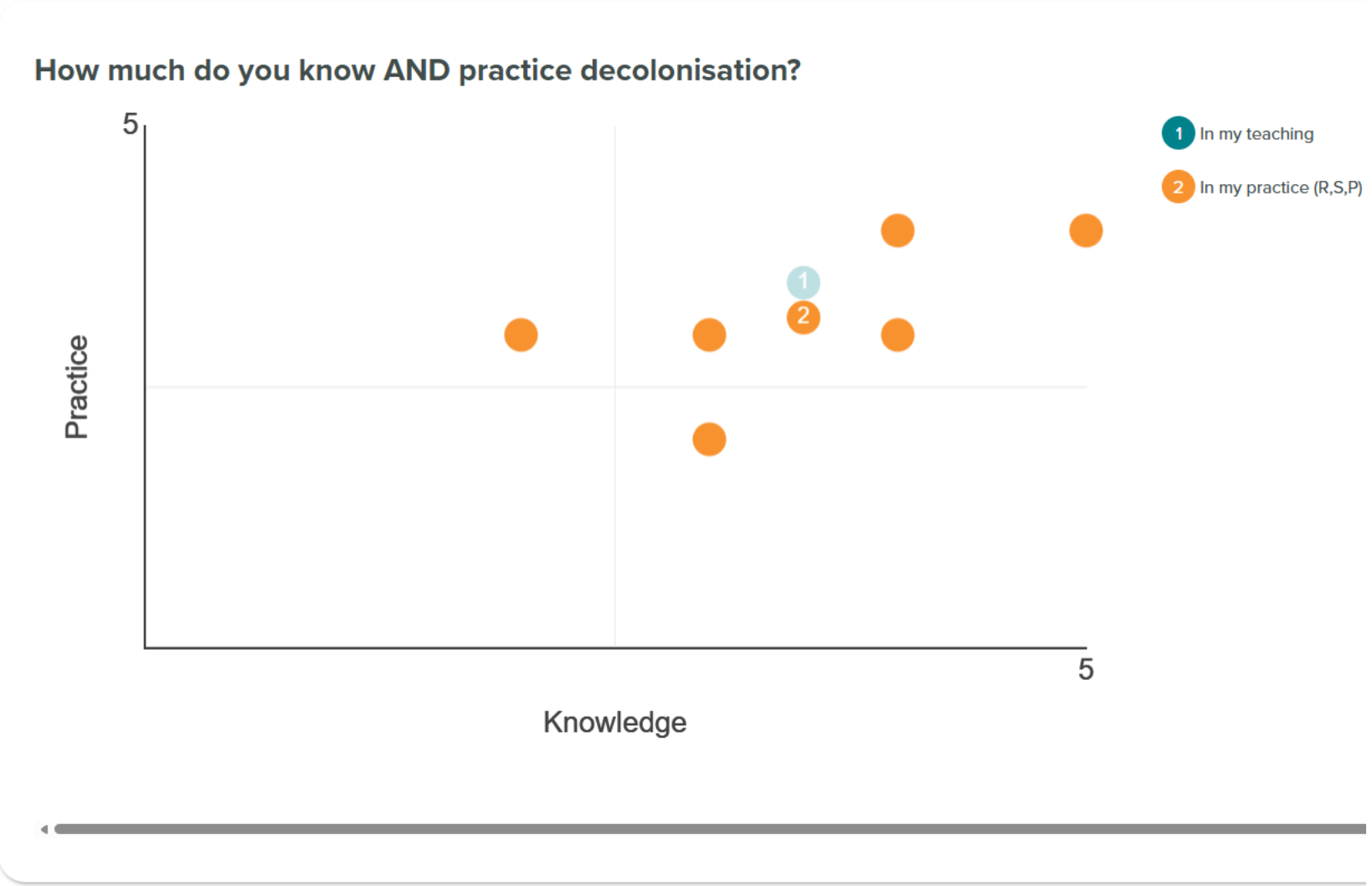
Inclusive, diverse, and decolonised curricular

- Help to improve the student experience
- Develop critical skills
- Improve the retention and success of all students.

Arday, 2019, Andrews, 2019, Heleta, 2016, Alexander et al. 2015

Knowledge vs Practice

- A range of knowledge that doesn't always translate to practice
- Teaching vs everyday practice



Different Roles and interactions with students

- Senior Lecturer in Biochemistry
- Biosciences CERT mentor lead
- Biological Sciences Course leader
- **Theme Lead in Biosciences Scholarship Research Centre**
- **Inclusive Student Experience**

L3, L4, L5, L6 students (foundation to final year students)

colleagues from the School of Science and Technology

- Biosciences module leaders
- Sports Sciences collaboration

group of colleagues interested in inclusive scholarship

- Reducing attainment gap
- Curriculum diversification and decolonisation
- Addressing challenges experienced by international or disabled students

A module at a time……and collaboratively

•Decolonising Biosciences, What do students think?
Surveying specific modules on perceptions of decolonisation

•Decolonising Biosciences, Module by Module
Student-staff co-creation of case-studies for selected modules

BIOL14404: Introduction to Biochemistry

BIOL25012: Advanced Biochemistry

BIOL33171 Immunology and Virology

BIOL22081: Biomolecular structure and function

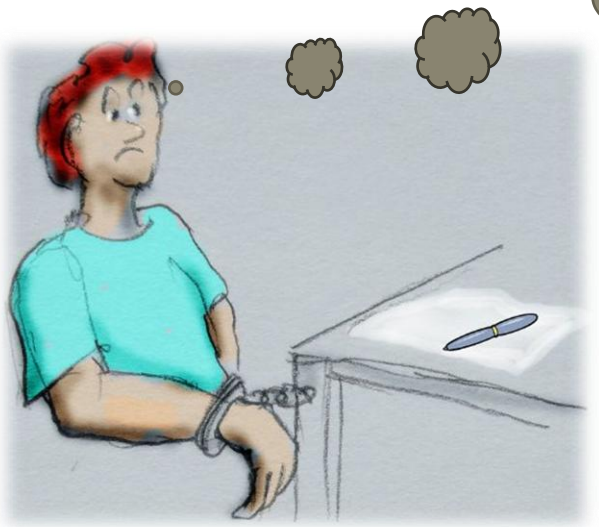
BIOL33171: Immunology and Virology (L6 module)

BIOL33361: Infectious Diseases and their Control

Undergraduate 3rd year projects

TILT funded seedcorn project

What do students think?



- 1) Modules may be considered inclusive, but students cannot connect with the material
  - L4 Material challenged student preconceptions. However, students (n=58) felt relatively unable to connect with the material and didn't find it enjoyable

"However, I've felt excluded at times as I've noticed a lack of representation among guest speakers/ researchers highlighted in the course material." *(Interviewee 1, Black)*

"I feel like the module has made some efforts to be inclusive and welcoming to students' ethnic backgrounds, but there is **still room for improvement**. I like that during group discussions lecturers and classmates are open to hearing from different views related to biochemistry." *(Interviewee 1, Black)*

"Historical backgrounds of minority groups should be included within the curriculum to make all BAME students feel involved and included with the module. At some moment **a lack of self-identity** was a common feeling during this module." *(Survey respondent 14, Asian)*

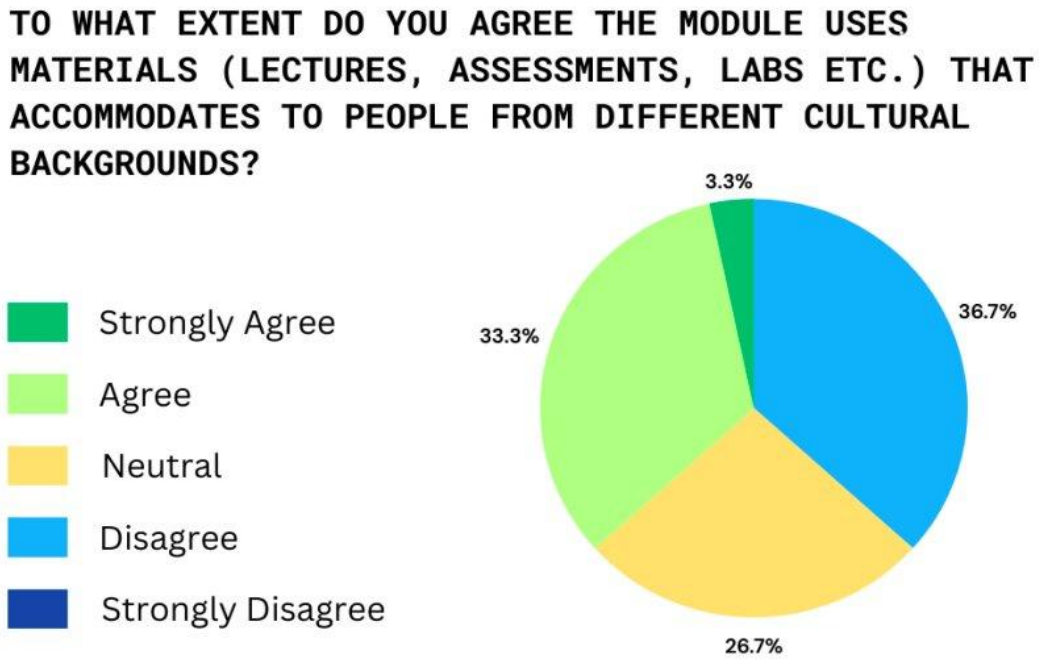
What do students think?

- L5 and L6 material require more work
  - Equal number of students agreeing and disagreeing on inclusivity of module material

I don't think I necessarily feel represented … it's more they try their best to make us feel that way.'

'Staff at the uni are very multicultural actually… we've seen lecturers from so many different countries.'

'In terms of keeping up with modern-day affairs and events, the content is very up to date and relevant but culturally… I don't really see how it relates.'



'I think the uni tries their best to make us all feel included, but sometimes you just really don't feel it.'

Other factors in play?

Thematic Analysis of student responses from focus group interviews

Biosciences Decolonisation Exchange

Seedcorn Funded project

- Students meet on campus to a focused session and research case studies for decolonising biosciences.
- Identify cases where, and research how, a module can be decolonised.

Session 1

- 6 students participating

Biomolecular structure and function (L5 module)
Immunology and Virology (L6 module)

- Infectious Diseases and their Control (L6 module)

Session 2

- Same students participating

Continuing decolonising the same module to enable an overall picture to be formed

Debrief and discussion about how to publish outcomes internally and externally

- After each event, the case studies will be collected and shared amongst all the participating students.
- To be shared with module leaders
- How to show change and impact?

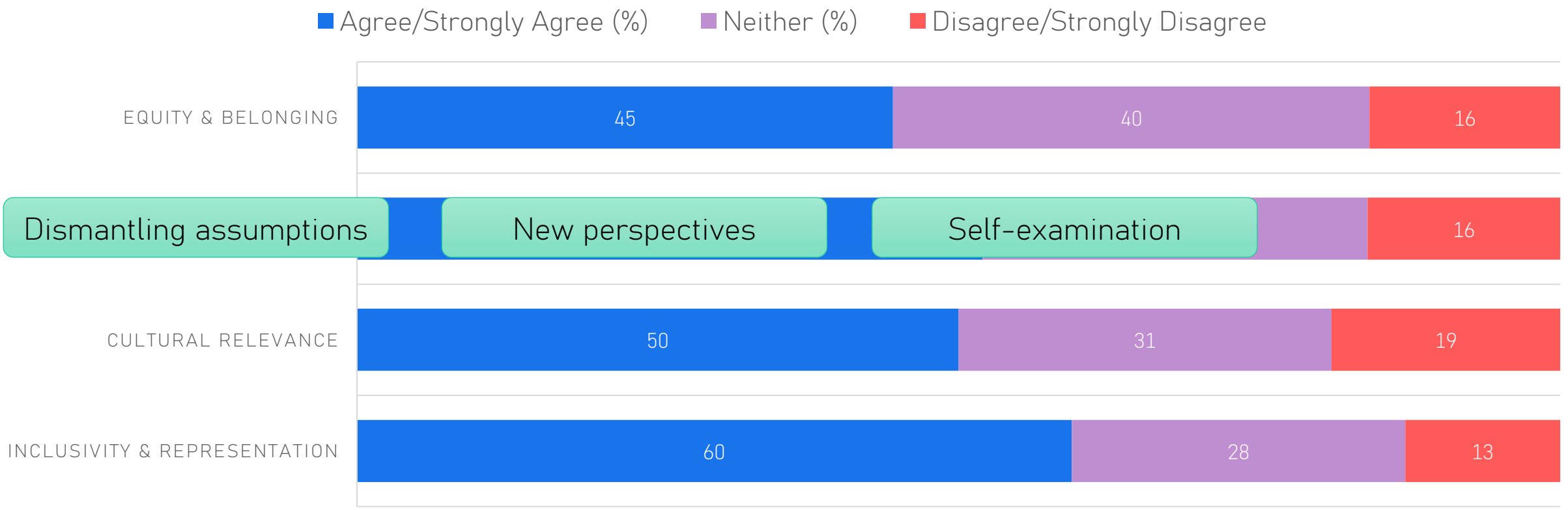
Discussions with module leaders

- Immediate module re-design, where case-studies are integrated into the curriculum.

Student- Staff Co-creation fund

- Extension and expansion of collaboration
- BIOL33361:Infectious Diseases and their Control
- Main finding: Good job in presenting inclusive information, but students don't feel they belong in the module.

relevance and



Midlands Biosciences Decolonisation Hub

Diversifying, sharing and implementing teaching resources and practice across the Midlands

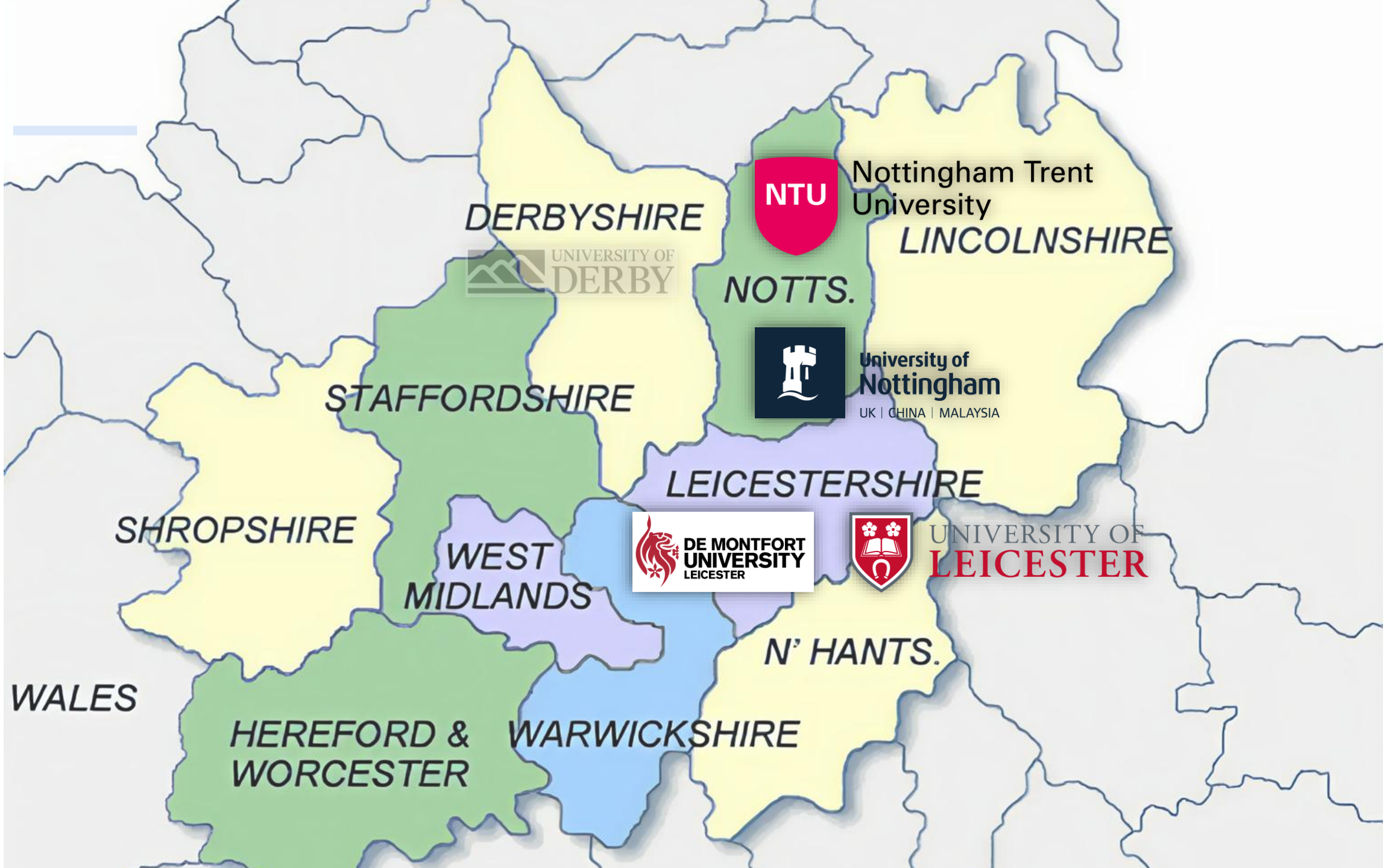
Funded by an Equality, Diversity, Inclusion and Culture Grant

Royal Society of Biology (RSB),
UK Society for Extracellular Vesicles (UKEV),
Association of Reproductive and Clinical Scientists (ARCS)

Royal Society of Biology

ARCS Association of Reproductive and Clinical Scientists

UKEV Society


NTU
Nottingham Trent University
DERBYSHIRE
LINCOLNSHIRE
UNIVERSITY OF DERBY
NOTTS.
University of Nottingham
UK | CHINA | MALAYSIA
STAFFORDSHIRE
LEICESTERSHIRE
SHROPSHIRE
DE MONTFORT UNIVERSITY LEICESTER
UNIVERSITY OF LEICESTER
WEST MIDLANDS
N' HANTS.
WALES
HEREFORD & WORCESTER
WARWICKSHIRE

Survey

Project description, researchers and procedure

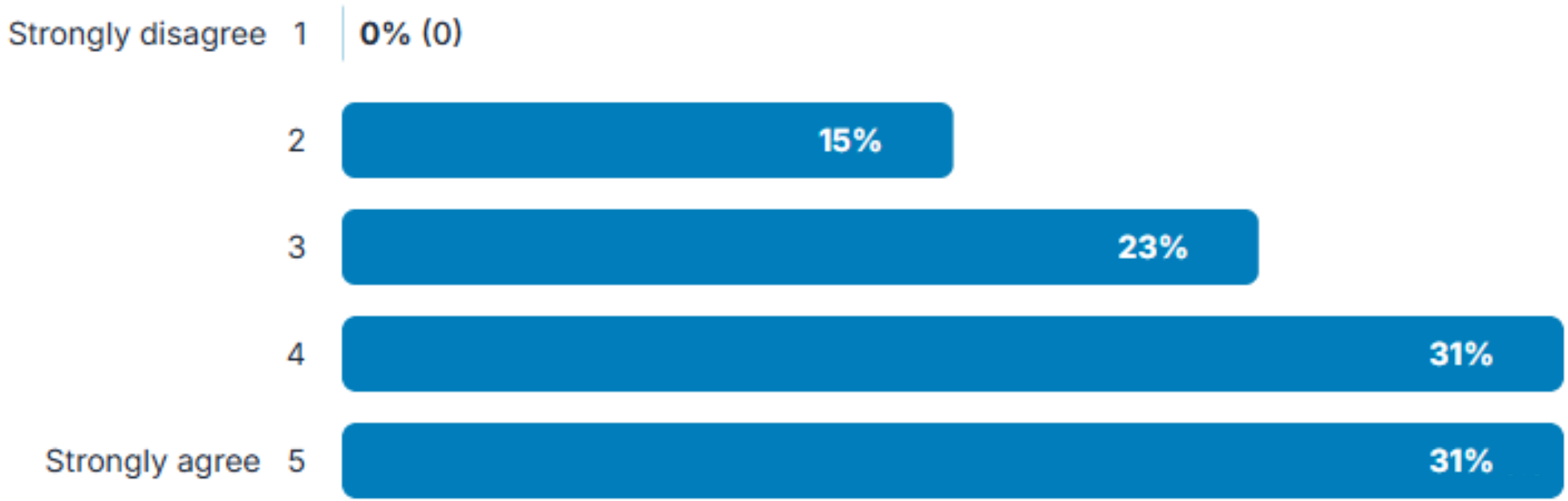
This questionnaire forms part of project being carried out in the School of Science and Technology by academics based in the Department Biosciences and collaborating institutions in the Midlands Decolonisation Hub: University of Leicester, University of Nottingham, De Montfort University, and University of Derby.

The project investigates what decolonisation means in the context of Biosciences teaching and learning. Student perceptions and opinions will be collected to understand how they experience their curriculum.

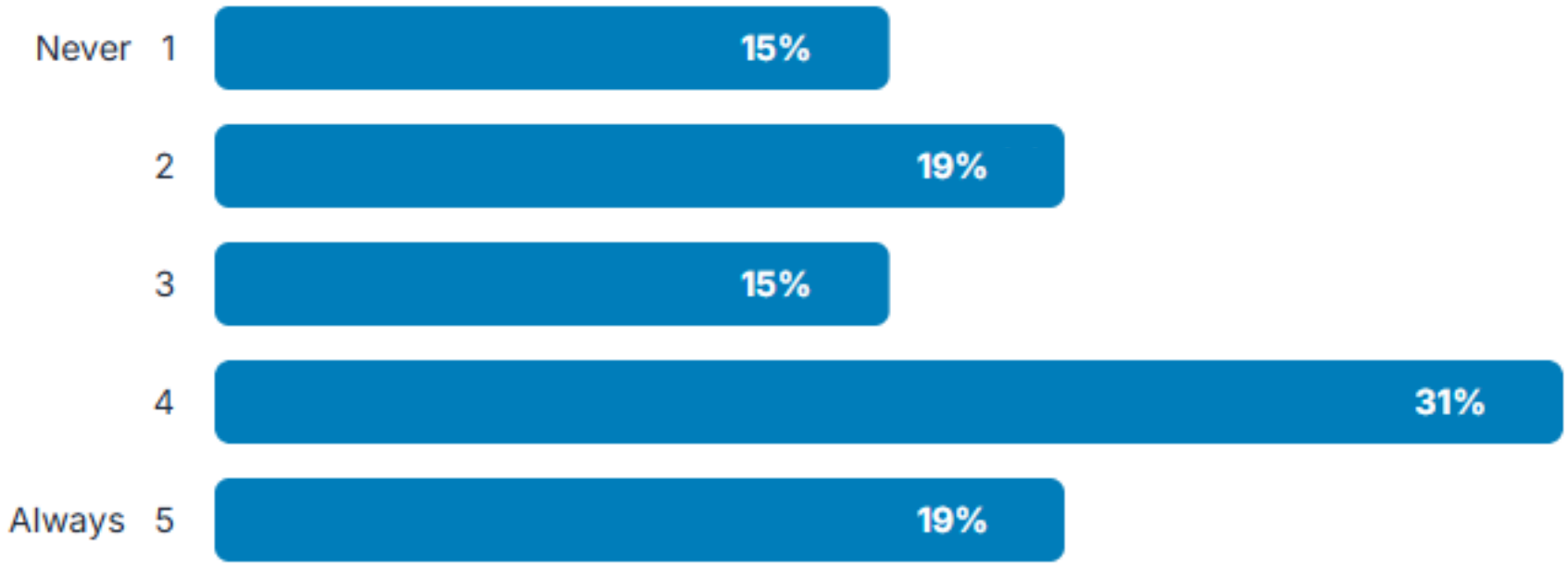
Decolonisation of the curriculum means integrating diverse cultural perspectives and assessments, working together to understand how and why learning happens across the world and discussing it. We want to include this approach within modules and courses. We also want to give students the skills to be able to participate effectively.

However, it's important to ask students their own perceptions of decolonisation before we do this, so that they can guide our work and our approach. To this end, NTU and other participating institutions' Bioscience **undergraduate students are invited to participate in Questionnaire which is focussed on their experiences and perceptions of decolonisation in their modules/courses.**

17. In my course, there is an inclusive environment where I feel respected and safe when contributing my perspective



25. This academic year, how often have you come across scholars/researchers from the Global South (based in Africa, Asia, Latin America or the Caribbean, or Indigenous communities) in your course content?



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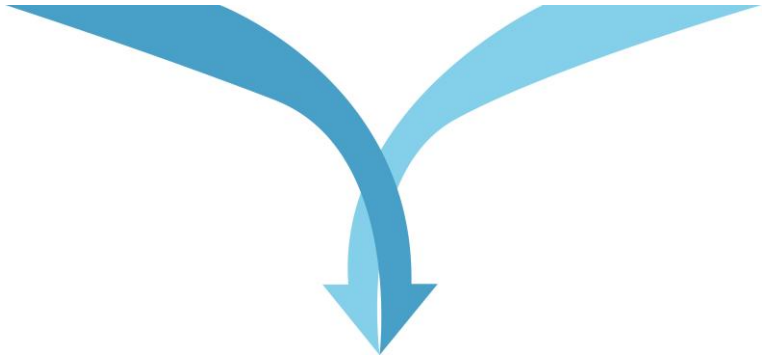
Student-staff co-creation of case-studies for selected modules

- Student Staff Co-creation Project

time

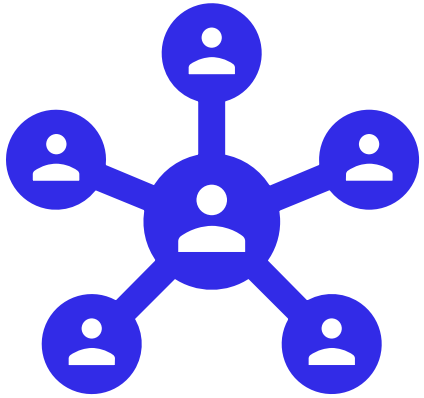
iteration

persistence

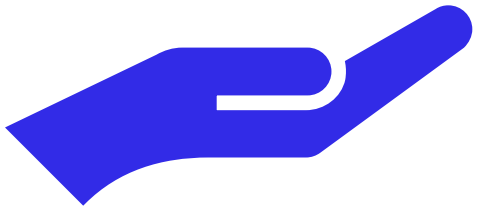


Midlands Biosciences Decolonisation Hub

Survey+co-creation+collaboration

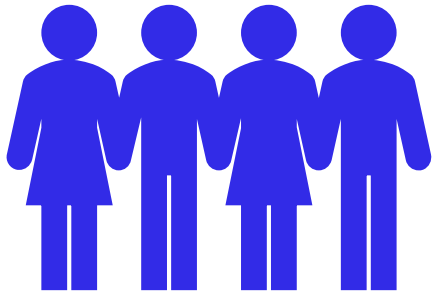


Connection

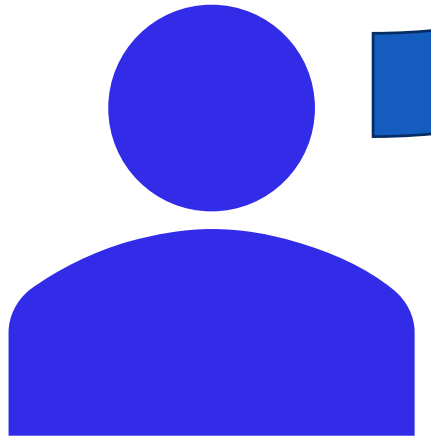


Support

Student co-creation embeds effective learning culture and sense of belonging



Inclusion



Autonomy

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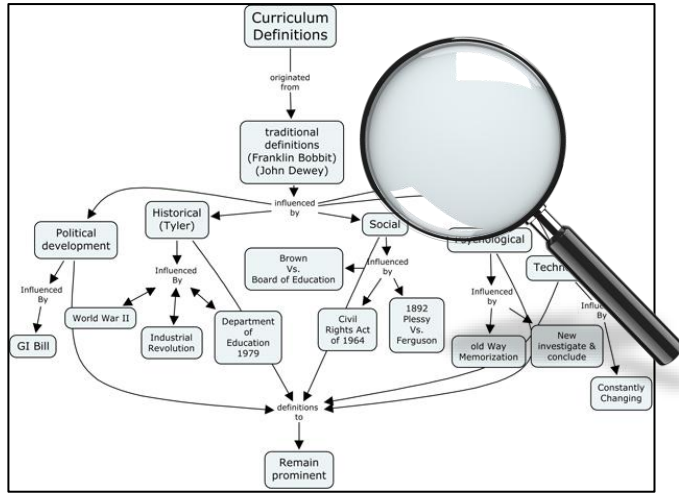
- HESA data, 2024
- Fixen et al., 2005
- Gollwitzer et al., 2006

What is decolonisation?

- Making visible those aspects of the curriculum that prioritise a dominant cultural perspective over all others (Castro-Klarén et al., 2019).
- Ending the domination of [dominant] epistemological traditions, histories and figures (Molefe, 2016).
- Examining reluctance for 'gatekeepers' to "open the canon to different bodies and traditions of knowledge and knowledge-making in new ways" (Shay, 2016).



A process contextual to our discipline and subject areas

Understand importance

Range of voices and canons of knowledge

Examine own subject