

Education & Training, Course Accreditation and Examinations Workshop



Welcome

Hayaatun Sillem, CEO, Royal Academy of Engineering

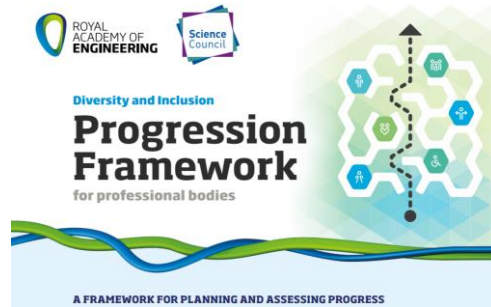


Diversity and Inclusion Progression Framework

Monica Stancu, D&I manager, Royal Academy of Engineering



D&I progression framework Overview



The [Progression Framework](#), is a tool to help professional bodies plan and assess their work on diversity and inclusion across the following areas using a 4 stage maturity model.

1. Governance and leadership
2. Membership and professional registration
3. Meetings, conferences and events
4. Education and training, accreditation and examinations
5. Prizes, awards and grants
6. Communications, marketing, outreach and engagement
7. Employment
8. Monitoring and measuring



Background to the progression framework

Need to understand current position

A strategic professional body-led approach

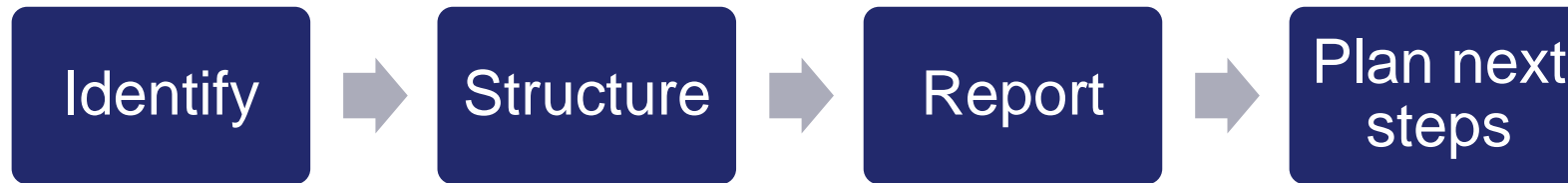
Sharing good practice

Transparent and accessible

Understanding what the Academy can do to support



How the Framework can help you



Stats and numbers

The first collective benchmarking across engineering and science professional-summer 2017

20 professional engineering institutions and 21 Science Council member bodies self-assessed





Progression framework steering group



The Alan Turing Institute



IOP Institute of Physics



ice

CIWEM



jDivers

ws

science_Council

Progression framework steering group

Blogs



Case studies



[IPEM - designing EDI training](#)

[RSC Mental Health Awareness](#)

[STEM Returners Programme](#)

[RAEng Meeting and Event Accessibility](#)

[Awarding Scholarships](#)

[RAEng Employment Case Study](#)

Resources and 'how to' guides (free)



Resources and 'how to' guides (paid)



Prizes, Awards and Grants Workshop



<https://sciencecouncil.org/professional-bodies/diversity-and-inclusion-implementation-steering-group/>

#EngDiversity @RAEngNews #ScienceDiversity @Science_Council



Prizes, awards and grants workshop

- A Prizes, Awards and Grants workshop organised by the Science Council and the Royal Academy of Engineering on 16th May to support diversity and inclusion progress across science and engineering professional bodies.
- A workshop on education, training and accreditation and examinations-16th September 2019.



Find out more...

Email:

- Monica Stancu, D&I manager, Royal Academy of Engineering,
Monica.Stancu@raeng.org.uk
- Brian Wagenbach, Member Engagement Manager, Science Council
B.wagenbach@sciencecouncil.org

Visit:

- www.raeng.org.uk/engdiversity
- <https://sciencecouncil.org/professional-bodies/diversity-equality-and-inclusion/diversity-framework/>



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Challenges to increasing D&I in Education & Training, Course Accreditation and Examinations

Brian Wagenbach, Member Engagement Manager, Science Council



Equality, Diversity and Inclusion in Education & Training, Course Accreditation and Examinations workshop

*Sarah Sharples, Pro-Vice-Chancellor for Equality, Diversity
and Inclusion, Professor of Human Factors, Faculty of
Engineering, University of Nottingham*

@scsharples



Goals of session (learning objectives)

By the end of this session you will

- Be aware of the value of a systems perspective to the education and learning experience
- Understand the impact of holding protected characteristics on different types of modules and assessment
- Appreciate the importance of inclusion for an effective learning experience
- Increase your awareness of adjustments that can be made to learning and assessment





- ▶ **LINKS** between D&I education, training, accreditation and review are considered.
- ▶ Candidates are asked about their access needs.
- ▶ Some ad-hoc activity relating to impact on diverse groups takes place.
- ▶ Some data is gathered and shared internally.



- ▶ There is ambition to remove barriers to underrepresented group **PARTICIPATION**.
- ▶ Demographic data on the performance of different groups is gathered.
- ▶ Assessment and review board criteria are reviewed for unconscious bias.
- ▶ Processes are checked to ensure they do not unintentionally discriminate.



- ▶ A plan of action has been approved.
- ▶ Content developers have access to information on accessibility and **UNCONSCIOUS BIAS**.
- ▶ Assessment and review boards have access to guidance on minimising unconscious bias.
- ▶ There is visible diversity among those in decision-making positions.



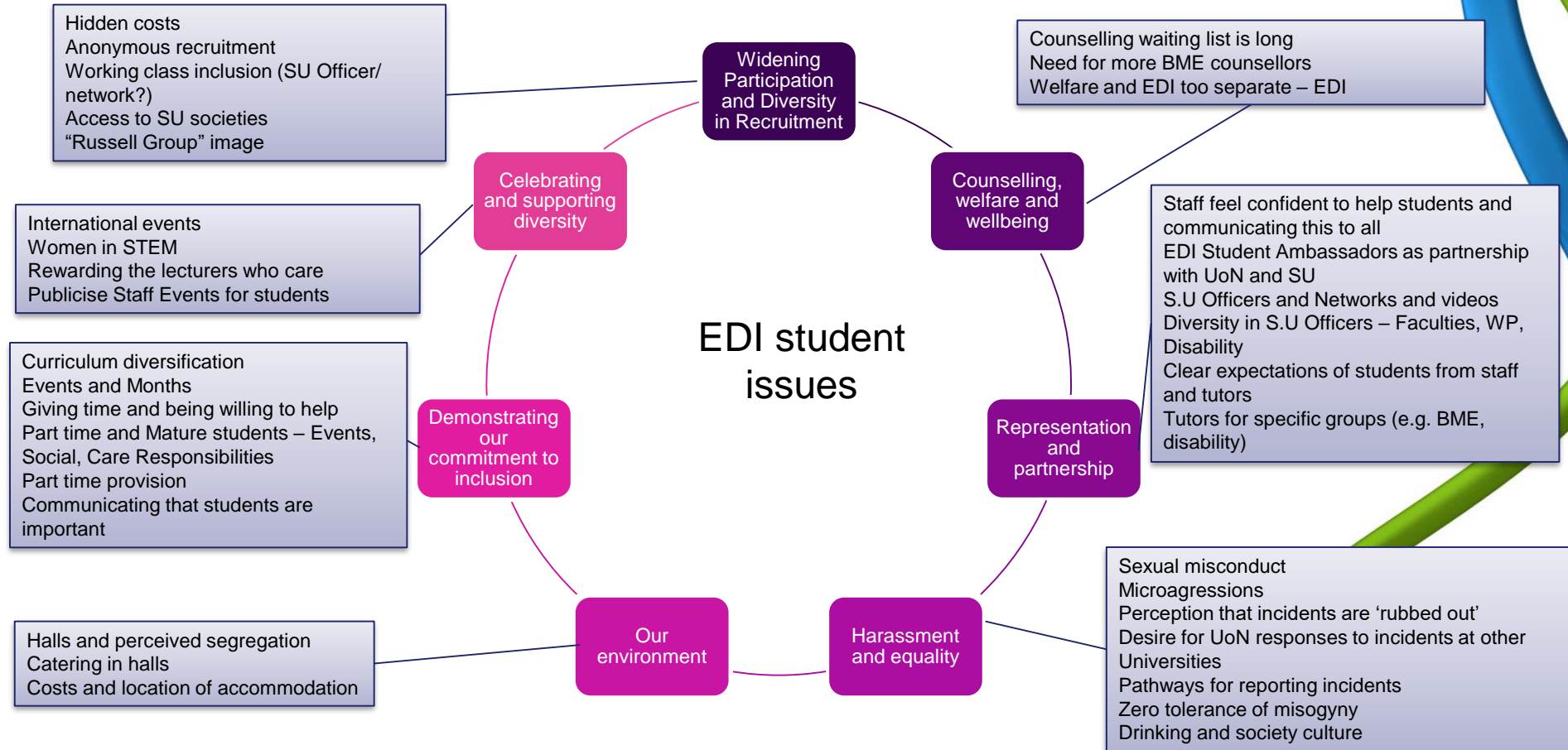
- ▶ Leadership **ROUTINELY REVIEWS** data, takes action and tracks progress.
- ▶ Education providers are actively encouraged to improve their approach to D&I.
- ▶ Continuous professional development for underrepresented groups is in place.
- ▶ Consideration is given to encourage wider diversity of assessment preferences.
- ▶ Good practice is widely and actively sought.
- ▶ Clear, sustained cultural change in education, training, accreditation, review boards and examinations is evident.



Taking a holistic approach – issues raised by our students



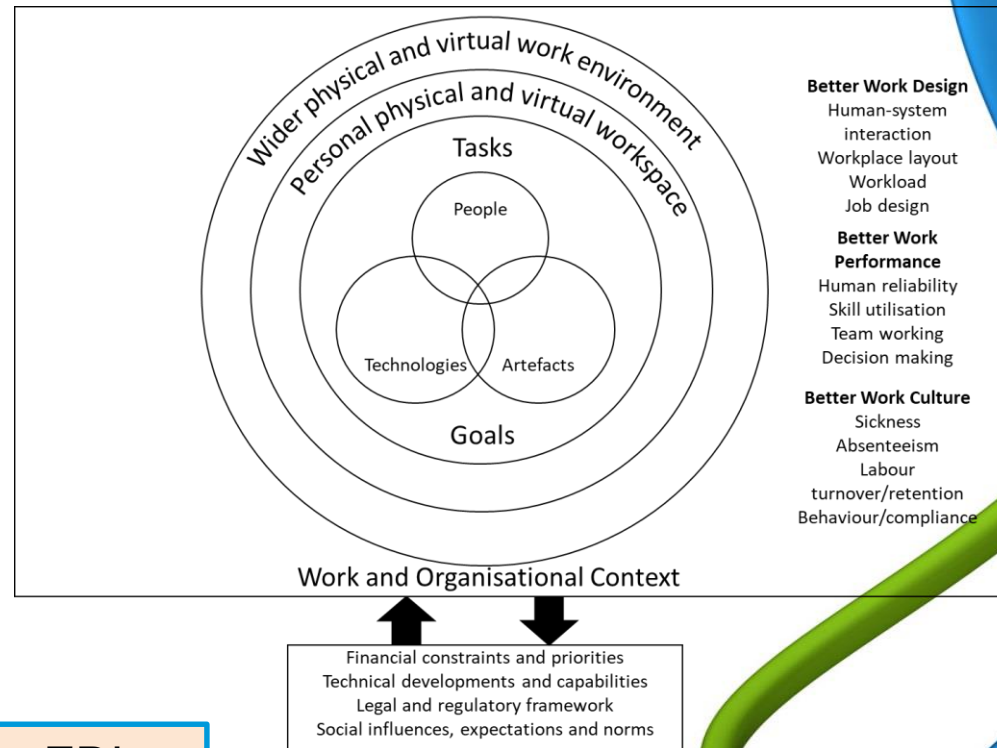
Issues being raised by students



Taking a systems approach

- Design of buildings
- Visible images around our campus and in digital media
- New technologies accessible to all
- The food we serve at meetings
- Language used in job advertising
- Behaviours of our staff and students

“Looking at the world through an EDI lens”



Access and inclusion

Degree classification of successful leavers

BME less likely to achieve 1st or 1st/2:1

White females outperform white males



How to increase inclusion and attainment for minority groups - hypotheses

- Curriculum content
- Having goals for those involved in outreach to include consideration of reaching under-represented groups
- Foundation year – summer school to support students with BTech
- Composition of teams for group work
- Understand impact of personal (e.g. home circumstances) on experience of study



Why do differences between different student groups occur?

Arts vs Science, Parental/own home vs. Other accommodation, Mature vs Young - None of these factors act alone



Supporting students from diverse backgrounds

www.nottingham.ac.uk/edi



Good practice

Conduct data analysis in detailed manner – don't just look at overall means etc.

Work in partnership with different parts of the organisation to share best practice

Unconscious bias training can be valuable, but EDI is much much more than this

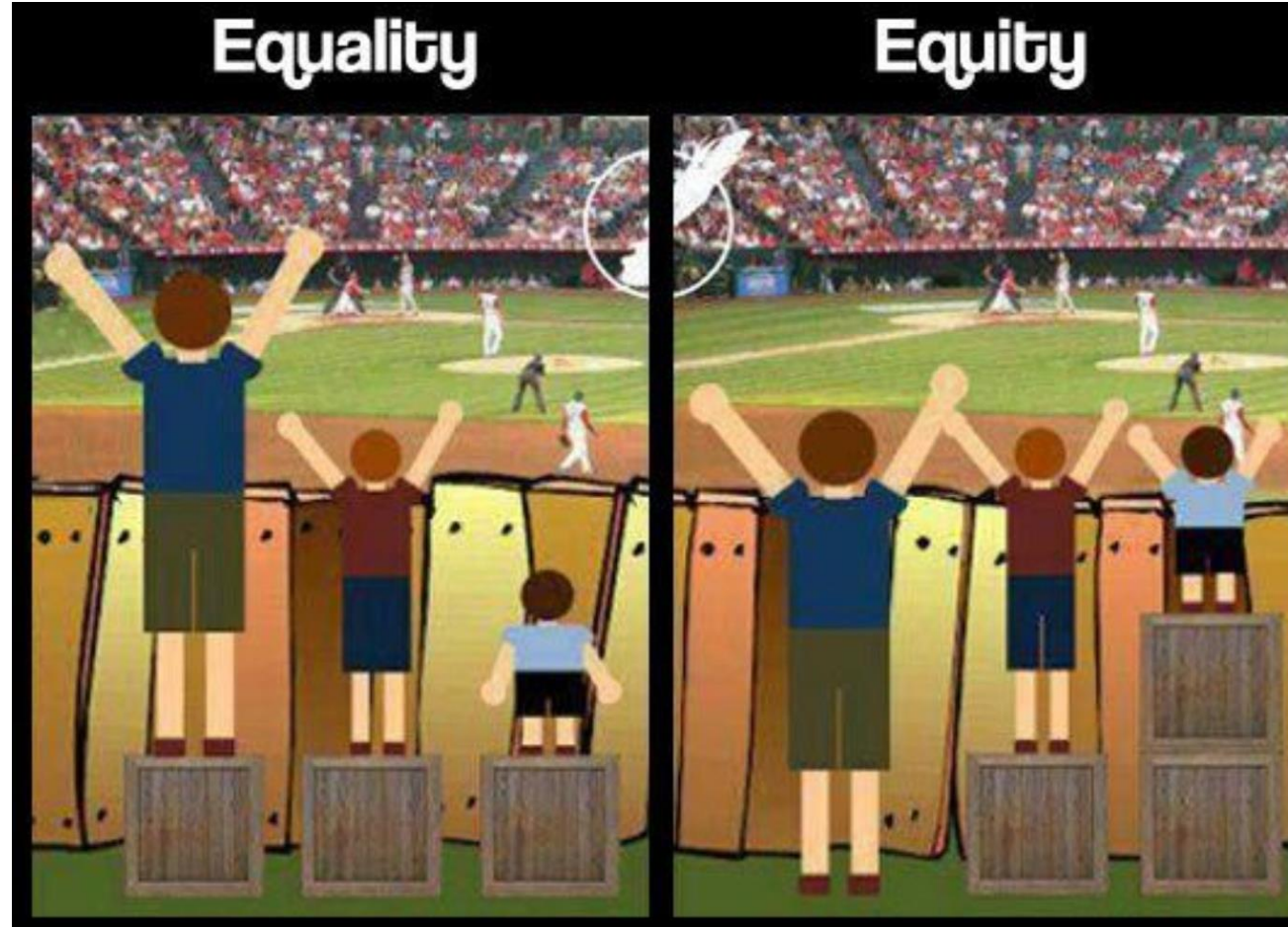
Don't assume that just because a person holds a protected characteristic they will be 'typical' – and where possible, make adjustments for all, rather than for individual groups or students



Why do we need reasonable adjustments?



Equality vs Equity



Sometimes success “feels harder”



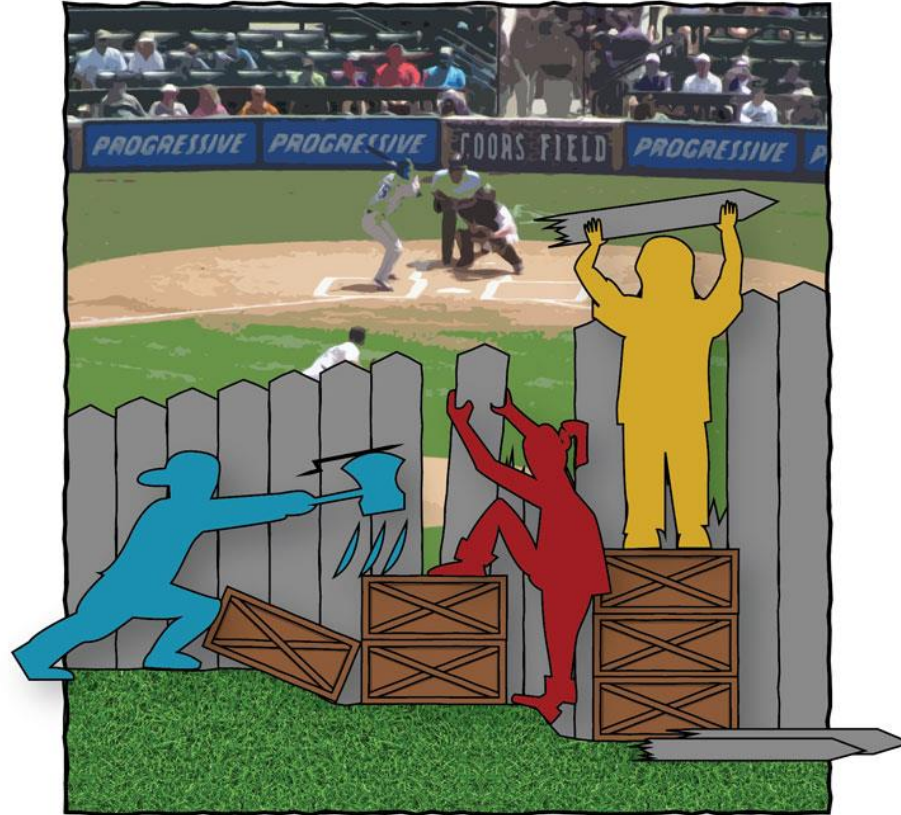
EQUALITY



EQUITY



Should we be working towards this?



JUSTICE



Examples of **reasonable** adjustments

Disability	Reasonable adjustment example
Specific learning differences (e.g. dyslexia)	Additional time Use of computer rather than hand written response Provision of material in advance
Visual impairment	Provision of material in alternative form Compatibility with screen reader Changed weighting of different elements of work Ensure lighting in room does not exacerbate condition
Autism	Ensure student able to prepare for assessment calmly and well in advance, with no last minute changes Ensure instructions clear and unambiguous, providing material in advance when reasonable Avoid busy or noisy environments Careful consideration of requirements for practical assessments
Chronic fatigue	Consider time of day and scheduling of consecutive sessions/tests Allow breaks and refreshments
Limitations in mobility	Ensure room and spaces (including toilet provision) fully accessible Allow breaks for stretches/rest



Examples of reasonable adjustments

- Ideally use independent expert advice to ensure equity
- Ensure that students are fully aware of opportunity to request reasonable adjustments on basis of disability
- Consider any other reasons for adjustments (e.g. impact of care responsibilities) and how they could/should be managed
- Ensure that assessors are aware of adjustments in a way that does not introduce new conscious or unconscious bias
- Consider whether in fact something which is requested as a reasonable adjustment should be provided for all



A reflection:

- Consider impact of things like icebreakers (“say an interesting fact about yourself, vs. say a boring fact about yourself”)
- Well meaning initiatives (e.g. exercise break) may be excluding some groups
- Many adjustments (e.g. preparing in advance, avoiding going too fast, managing groups carefully) will be good for all students, not just those with protected characteristics
- The key underpinning goal is fairness – not everyone will be able to do every job, but we want to ensure people have equality of opportunity to demonstrate their own very best performance.



Thank you.

Jonathan Sneade
Chris Sprange
Sarah Speight
Andy Winter
UoN Students' Union
Lynette Outram



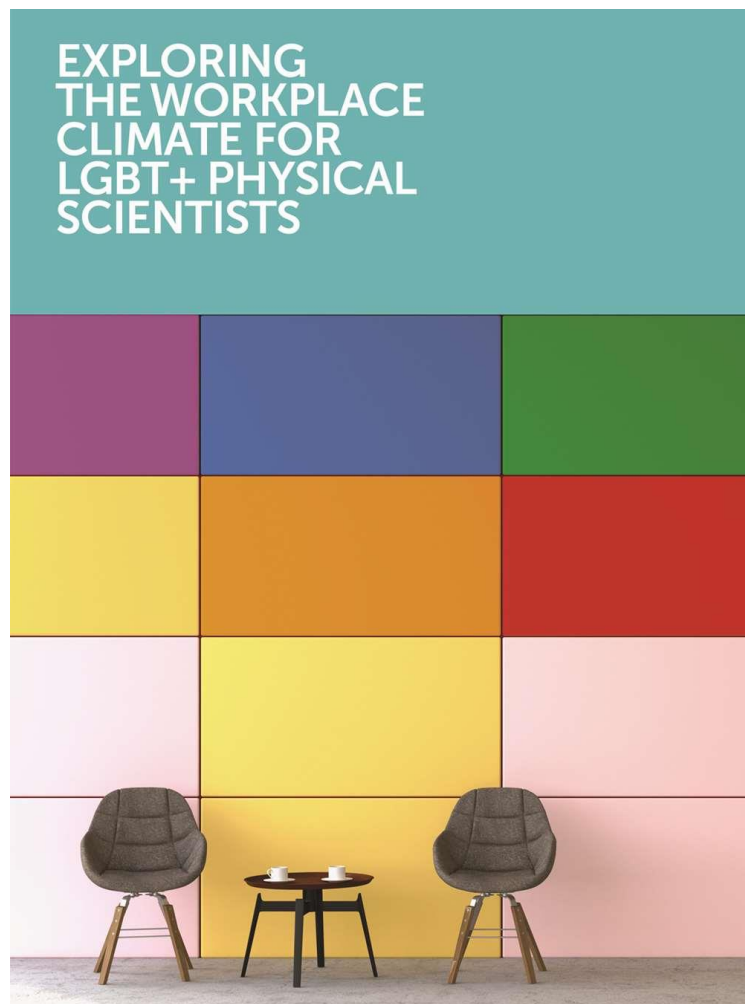
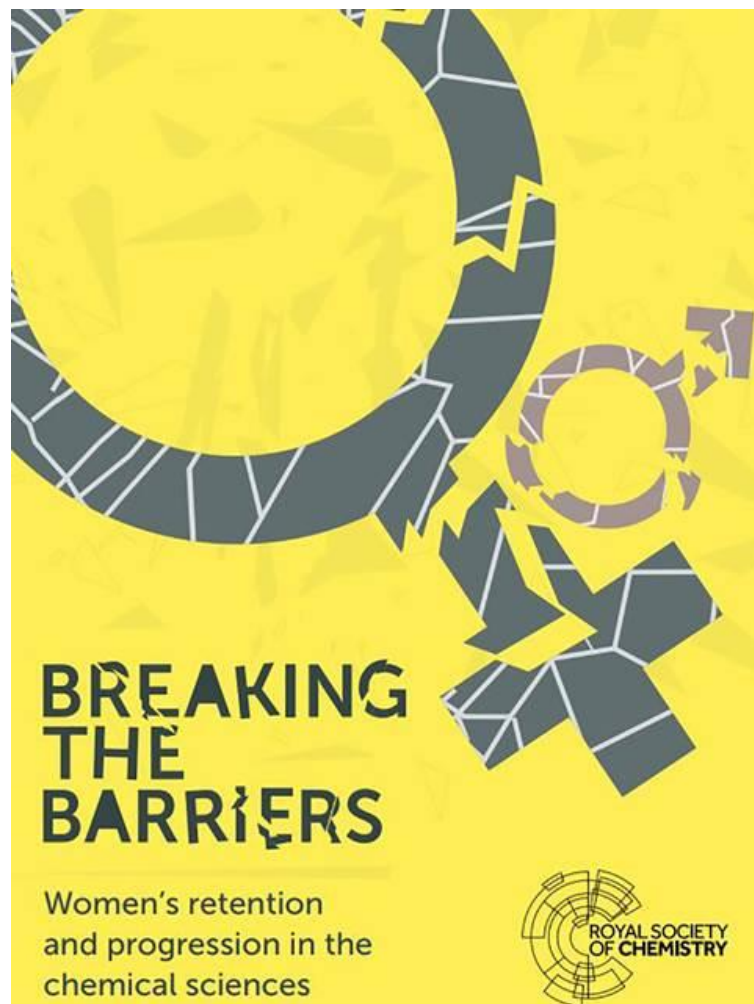
Areas of Learning, Good Practice

Royal Society of Chemistry

Professor Tom Welton OBE CChem FRSC
President Elect

Dr Toby Underwood CSci, CChem MRSC
Secretary Professional Standards Board





Change of Heart

Career intentions and the chemistry PhD
November 2008



RSC | Advancing the
Chemical Sciences

www.rsc.org



Joliot Curie Conference 2019

11–12 September 2019
Nottingham, UK



Joliot-Curie Conferences annually since
2014

Career development with emphasis on D&I

#EngDiversity @RAEngNews #ScienceDiversity @Science_Council



Course Accreditation

Background

>480 degree accreditations @ >80 Universities worldwide

>430 UK/Ire degree accreditations @ 60 Universities

(>95% provision in UK)

Accredited our First Degree Apprenticeship

16 Key Requirements

(including)

- Breadth
- Depth
- Practical
- Placement
- Project
- Assessment
- Title
- Transferable Skills
- Learning Environment

Process

- Paperwork assessment
(diverse set of assessors; type of HEI; gender etc)
- Site Visit
(meet with staff and students)
- Industry Observer





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Learning Environment

“The institution should promote and adopt an inclusive and diverse learning environment, and foster opportunities to widen participation”

We ask direct questions about I&D and ask HEI to highlight areas of good practice. Develops into broader conversations. Covers diversity of teaching staff.

- Willing to change our own language

We stopped using the words “pastoral care”, which has different meaning in Ireland.

- Carried out mental well-being survey of industrial placement students to check distance learning was not overwhelming.





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Curriculum/Assessment

Practical:

“An institution can make reasonable adjustments such as: lab helper, help with fine manipulations, or directing laboratory work remotely for those unable to carry out laboratory work for reasons of disability.

Accreditation is reflective of the overall programme rather than individual situations”

Introduced as a direct response to growing queries from students and HEIs seeking reassurance

Examination vs Blended Assessment:

Before 2011 focus was on exams. However, now recognise that a wider range of assessments is appropriate.

Also carried out a study disproving misconception male students are better at exams



International Course Accreditation (learnings)

Learnings come through just travelling and experiencing different cultures.
This allows us to build credibility by simply showing and applying an understanding.

- In Malaysia/Indonesia meetings on Fridays are unfeasible due to prayers
We have had open conversations about religion and how that impacts the learning environment (not sure we've ever had those conversations in UK)
- Middle East – Chemistry is very much aimed at female students (viable career).
Therefore teaching is enhanced for females in segregated universities (comparisons with unisex UK schools)



Future Plans

- Actions arising from Breaking Barriers report - behaviours
- Considering how we gain information from students.
 - Currently done in open forum with peers (no staff)
 - Can we have a speak out mechanism??
- Continually monitoring the situation



Personal Accreditation (RSciTech, RSci, CChem, CSci, CEnv)

- We are seeing an increase in female applicants to all awards i.e.

Overall: Only 16% of all current CChems are Female

However: 2016-present 38% of new CChems are Female

- Registers already have Gender parity reflecting position of Science Apprenticeships
- Introduction of 2 pathways to CChem (Interview and/or Portfolio)
Caters for those with Dyslexia, adverse pressure situations etc
- One main reason for having licence for RSciTech/RSci was to cater for diverse education background. Hence focus on context within apprenticeships.
- Bringing technicians into professional recognition.



Future Plans

- Actions arising from Breaking Barriers report – behaviours
- Bringing D&I into mainstream professional activities – what should you be doing?
- Reviewing recognition and awards system
- Inclusion for all of our members, wherever they are.



Q&A

Polly Williams, Head of Diversity and Inclusion, Royal Academy of Engineering (moderator)



Planning for change

Polly Williams, Head of Diversity and Inclusion, Royal Academy of Engineering



At your tables (15 minutes):

1. Share examples of good practice where organisations (both within and outside science and engineering) have improved diversity and inclusion in education & training, course accreditation, and examinations
2. Discuss what actions or changes (both immediate and longer term) professional bodies can take to improve D&I in education & training, course accreditation, and examinations
 - a. *Consider how you would plan for these changes, who you might need to work with internally and externally, what resource or expertise might be required, timelines, communication required, and how you will evaluate effectiveness.*
3. Decide who will feedback to the group



Useful links...

- www.raeng.org.uk/engdiversity
- <https://sciencecouncil.org/professional-bodies/diversity-equality-and-inclusion/diversity-framework/>
- [Supporting students from diverse backgrounds](#)
- [Breaking the barriers: Women's retention and progression in the chemical sciences](#)
- [Change of heart: career intentions and the Chemistry PhD](#)
- [Diversity monitoring guidance / sample monitoring form](#)
- [Better Measures paper](#)



Lunch

