



# **Evaluating the use of an Inclusive Curriculum Tool in STEM modules**

## **eSTEEeM Final Report**

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# Executive Summary

This project evaluated the application of the Open University (OU) Inclusive Curriculum Tool (ICT), version 4, within a selection of Science, Technology, Engineering, and Mathematics (STEM) modules. The development and implementation of the ICT formed part of a broader institutional strategy to address degree awarding gaps, identified as priority areas within the University's Access and Participation Strategy (APS). While informed by the sector-wide discourse on decolonising the curriculum, the ICT extends beyond this by aiming to foster inclusivity for all students. Its core principles focus on, the accessibility of materials to diverse student groups (encompassing language and imagery, beyond mere accessibility for disabled students); the representation of diverse groups within the materials; and the materials' capacity to equip students for participation in a global and diverse world.

Funded by the Pro-Vice-Chancellor (Students) from 2020 to 2022, the project piloted the ICT (version 4) across a sample of STEM modules in two phases. Associate Lecturers (ALs), where possible with lived experience of underrepresentation and familiarity with the target modules, were recruited to conduct the reviews. In order to build in evaluation from the outset of the project, qualitative data was gathered through workshops, semi-structured interviews, participant diaries, and the completed ICT reviews. The data was then analysed to identify recurring themes and inform a critical evaluation of the tool.

Our findings suggest that while the Inclusive Curriculum Tool (ICT) effectively identifies areas for improvement within existing materials (language, imagery, data, case studies, and historical references), these adjustments alone have a limited impact on student experience. Minor modifications may mitigate feelings of alienation among underrepresented students, but the most significant influence lies in the ALs (Associate Lecturers) themselves and how their teaching practices evolve.

Achieving inclusivity necessitates a strong emphasis on teacher characteristics and their understanding of inclusion, beyond merely reviewing curriculum content. The ICT, while valuable for raising awareness and initiating discussion, is insufficient as a standalone intervention.

To foster inclusion in STEM teaching and learning we recommend

- **Investing in comprehensive EDIA training** for all staff, with a strong emphasis on ALs.
- **Fostering collaborative learning** among ALs, including peer-to-peer learning and open dialogues with students.
- **Addressing institutional barriers** that hinder inclusive practices.
- **Embedding the ICT** into the module development process.
- **Prioritising student co-creation** in curriculum design.
- **Increasing staff diversity** to better reflect the student population.
- **Emphasising the importance of strong student-student and AL-student relationships** as crucial components of an inclusive learning experience.





# Aims and scope of the project

## The Inclusive Curriculum Tool and Review Process

The Inclusive Curriculum Tool consists of a series of prompts, which ask questions pertaining to inclusivity. These prompts were developed by a large team of practitioners and stakeholders from across the University, influenced by the Inclusive Curriculum principles. The Tool had undergone iterative modifications and enhancements based on feedback from end users and recipients of feedback. Table 1 below gives a comprehensive list of the 22 prompts in this version (version 4) of the Inclusive Curriculum Tool used in this initial pilot.

<b>0</b>	How is the whole module team ensuring inclusivity as part of the learner journey (student experience)?
	<b>Epistemologies</b>
<b>1</b>	Identify any assumptions about a shared lived experience of students.
<b>2</b>	Is there material from different UK contexts where appropriate?
<b>3</b>	Is there material from outside of the UK, USA and Europe where applicable?
<b>4</b>	How is a diversity of views expressed in the material, and are there any limitations of particular viewpoints acknowledged?

<b>5</b>	How do activities and the material create respect and an appreciation of the value of difference?
<b>6</b>	Are external readings and references by diverse authors? If not, could they be? Is the positionality of these authors examined where appropriate?
	<b>Pedagogies</b>
<b>7</b>	How does the material give the opportunity to draw on personal lived experiences of students?
<b>8</b>	Does the material reflect diversity rather than reinforcing stereotypes?
<b>9</b>	How do the activities and materials give the opportunity to recognise and learn from different parts of the world?
<b>10</b>	How do the activities and materials allow students to use their own experiences and to share ideas and experiences to enrich the understanding of other students?
<b>11</b>	Which activities or materials make students aware of how their experience and viewpoints are shaped by their cultural, historical, geographical, economic, religious and other contexts?
<b>12</b>	In what ways are students' skills developed to critically examine/challenge the activities and materials? If not, how could they be?

<b>13</b>	Is there a range of assessments that are accessible, non-discriminatory and timely?
<b>14</b>	To what extent are there opportunities for learners to critically engage as partners with the assessment (process, content, approaches, etc.)?
<b>15</b>	Are there opportunities to critically engage with equality and diversity themes in assessment that relate to learners' lived experiences?
<b>16</b>	Do activities and assignments enable students to demonstrate their understanding in different ways (written, spoken, visualisations, etc.).
	<b>Language, Culture and Communication</b>
<b>17</b>	Is language that refers to people respectful and appropriate?
<b>18</b>	Is there any use of idiom, exclusive cultural reference or colloquialism?
<b>19</b>	Is the use of English language simple, transparent and accessible and appropriate to the level of study?
<b>20</b>	Is the teaching voice inclusive of genders, ethnicities, (dis-)abilities, educational backgrounds and socio-economic statuses?
<b>21</b>	Is imagery and multimedia content used representative of diverse cultural, historical, geographical, economic, religious and other contexts?

*Table 1: The prompts from version 4 of the Inclusive Curriculum Tool*

Prompts are categorised into thematic groups – Epistemologies, Pedagogies, and Language, Culture and Communication – within a spreadsheet format. Version 4 was also accompanied by a reading list to guide reviewers in theoretical approach. Interestingly, many of these readings centred around the approach of decolonizing the curriculum (see Bhabra, Gebrial and Nişancıolu, 2018).

An Inclusive Curriculum review consisted of a practitioner trained in the principles of Equity, Diversity and Inclusion (EDI) scrutinising learning materials, guided by prompts in the Inclusive Curriculum Tool. Users of the Tool recorded their findings within the spreadsheet against the prompts, with the reviewer detailing any issues or queries identified in either the spreadsheet or in a document format. The Tool encouraged users to record instances of good inclusive practice, as well as identifying issues or queries. These findings were then collated into a single report for the module team. The reviewer also presented an overview of their findings in an online meeting with the module team, and the module team then used the feedback to inform curriculum development and implement required change where possible, but subject to the module life cycle challenges.

Use of the Inclusive Curriculum tool was mandated by PVC-S for a subset of modules within each Faculty. In this project we aimed to evaluate this process of curriculum review during the initial pilot phase.

## Project Aims

When we were first presented with the Inclusive Curriculum Tool, our key motivation was to answer the question: ‘What does an inclusive *STEM* curriculum look like?’ Whilst we could see the application of the Inclusive Curriculum Tool to disciplines in the social sciences or the humanities, we were initially curious but skeptical that the tool would unearth any inclusivity issues relevant to *STEM* teaching and learning.

Our second aim was to explore the factors which shape and define what ‘inclusive’ teaching and learning means. The Open University was founded on the principle of ‘open entry’, removing the requirement for entry qualifications from our undergraduate qualifications. The principle of ‘inclusivity’ is fundamentally tied to the Open University’s mission to be “open to people, places, methods and ideas” (Open University, no date). One of the Open University’s stated values is to be ‘inclusive’, with this characterised via a social justice mission: “We promote social justice through the development of knowledge and skills” (Open University, no date). Since its founding over fifty years ago, the Open University has sought to include students from underrepresented and marginalized groups, most notably older learners, disabled students and students in secure environments (e.g., prisons and secure hospitals).

A further exploration of the definition of ‘inclusivity’ can be seen through the Inclusive Curriculum Tool’s three principles, which are articulated through the following questions:

1. Is the material accessible to diverse groups of students (not just in terms of accessibility for disabled students; in terms of the language and images used)?
2. Will diverse groups of students see themselves reflected in the material?
3. Does the material equip students to participate in a global and diverse world?

For the Inclusive Curriculum Tool, then, the concept of ‘inclusivity’ is explicitly conceptualised via the principles of accessibility, diverse representation and internationalization, with particular emphasis on disabled students and students from minoritized ethnicities. By comparison, other providers have explicitly tied their frameworks to other specific sector-wide critical approaches such as Anti-Racist Curriculum (Anti-Racist Curriculum Project Working Group, 2021), mental wellbeing in the curriculum (Hughes & Spanner, 2019), and decolonising the curriculum (SOAS, no date; DMU, no date). The Inclusive Curriculum Tool does not mention these approaches explicitly – but the influence of these approaches is clear in the language of the Inclusive Curriculum Tool itself. We therefore sought to question the extent to which the definition of ‘inclusivity’ that the Inclusive Curriculum Tool offers is sufficient in achieving a truly equitable experience for all students.

Our third aim was to determine if this approach to auditing curriculum is of material benefit to students. Like many other Higher Education providers, however, the Open University has set a strategic priority in its Access and Participation Strategy (APS) to close awarding gaps for students in minoritized

groups, with particular focus on ethnicity, disability and socioeconomic status.

The Inclusive Curriculum Tool was developed by a range of stakeholders across the university, specifically as part of a suite of measures to address awarding gaps.

# Activities

## **Recruiting Associate Lecturer reviewers**

In the Faculty of STEM, we recruited a team of fifteen Associate Lecturers from across the faculty to pilot the use of the Inclusive Curriculum Tool on fourteen STEM modules. In this initial pilot phase (A), we expressed a particular interest in hiring Associate Lecturers from a diverse range of lived experiences with an interest and enthusiasm for Equity, Diversity and Inclusion (EDI). Recruiting Associate Lecturers with a range of disciplinary expertise was of secondary importance to us, and, as it turned out, the Associate Lecturers who expressed interest happened to represent a diversity of lived experiences and disciplinary areas. Associate Lecturer reviewers underwent intensive training in EDI issues in teaching and learning, facilitated by external providers (Advance HE). This included the following modules:

1. Introduction to Equality, Diversity and Inclusion
2. Inclusive Curriculum Development and Delivery
3. Becoming an EDI Change Agent

## **Selecting Modules: Phase 1**

For Phase 1, our key aims were to build a community of trained ALs, and to explore our collective practice around inclusion. We therefore chose modules to review based on what our ALs had experience of teaching. The list is given below.



<b>Module</b>	<b>Title</b>
M140	Introducing statistics
MST210	Mathematical methods, models and modelling
S111	Questions in science
SDK100	Science and health: an evidence-based approach
SK298	Brain, mind and mental health
SXHL288	Practical science: biology and health
T122	Career development and employability
T192	Engineering: origins, methods, context
T219	Environmental management
T229	Mechanical engineering: heat and flow
T272	Core engineering B
T452	The engineering project
U101	Design thinking: creativity for the 21st century
U116	Environment: journeys through a changing world

## Table 2 Modules selected for ICT review Phase 1

At the time of the reviews, the ICT was in an earlier draft stage. This provided an opportunity to influence the development of the ICT itself but also allowed for rich reflections on the core EDI principles embedded in the ICT.

### Selecting Modules: Phase 2

During Phase 1, it became apparent that although module teams were grateful to receive an Inclusive Curriculum review of their module, they did not necessarily have the opportunity or resource to implement suggested changes.

For Phase 2 of this project, we asked Directors of Teaching to identify priority modules for an Inclusive Curriculum review. This could be because of an upcoming life cycle review, a planned refresh or replacement module being written, or because of an opportunity to have the greatest impact on APS priority groups.

The identified priority modules are as follows, with the reviews taking place before the end of July 2022.

Module code	Title
M248	Analysing data
MST224	Mathematical methods
MT365	Graphs, networks and design
S112	Science: concepts and practice
S206	Environmental science
S209	Earth science

S215	Chemistry: essential concepts
S217	Physics: from classical to quantum
S294	Cell biology
S390	Science project course
S818	Space science
SK320	Infectious disease and public health
SM123	Physics and space
T212	Electronics: sensing, logic and actuation
T217	Design essentials
T868	Environmental monitoring and protection
TM111	Introduction to computing and information technology 1
TM112	Introduction to computing and information technology 2
TT284	Web technologies

*Table 3: Modules selected for ICT review Phase 2*

## **Data gathering**

In Phase 1, reviewers met with the project team in four workshops, spaced evenly throughout the six months of the project, where they shared their experiences of the training and how they applied the Inclusive Curriculum Tool. These meetings were recorded and transcribed. We asked them to keep reflective journals of their experiences, alongside their completed Inclusive Curriculum Tool spreadsheets. At the end of the process, Associate Lecturers met with the module team of the module they had been reviewing and presented a summary of their findings within a synchronous online meeting. They also handed over to module teams their detailed completed Inclusive Curriculum Tool spreadsheets as a written record of the issues they had identified. In addition a subset of AL reviewers were invited to be interviewed about their experiences of conducting inclusive curriculum review. 8 semi structured interviews were conducted in MS Teams with the meetings recorded and transcribed using the MS Teams transcription software.

## **Data Analysis**

These outputs,

- transcribed workshop recordings
- completed curriculum reviews
- reviewers reflective diaries
- reviewer interviews

were then analysed thematically (Braun and Clark, 2006) using Nvivo software.



# Findings

## Results from reviews

This section will report the common issues and themes which were reported in the fourteen STEM modules which were reviewed by Associate Lecturer reviewers. We also report some of the gaps which were reported in module reviews but not covered by the Inclusive Curriculum Tool.

### Language

Although good practice was identified in most modules, there remained some issues in the use of overly colloquial and/or regional language. Some pockets of implicit bias in language were highlighted: e.g. European or American STEM practitioners were often described with an adjective like 'great', 'celebrated', 'famous', etc., whereas scientists from the Global South were just stated by name.

### History

Our materials do present the historical development of STEM subjects from a largely Western perspective, which naturally leads to a lack of (and in some cases, a complete absence of) women and ethnic diversity. Where STEM practitioners who are known to have held and propounded views that run counter to the Open University ethos are presented, e.g. in relation to eugenics, the context is often absent.

## **Images**

Diversity is most easily showcased in images, and most easily noticed if absent. This applies to photographs, cartoons and diagrams. Key consideration is given to where the images come from, what they portray, and what (implicit or explicit) story they present.

## **Case Studies and Data Sets**

Examples and case studies are largely drawn from data sets from Western countries. Where data and case studies come from the Global South, there is a tendency to present a 'poverty/disaster narrative'.

## **Other issues: Assessment and Pedagogy**

The Inclusive Curriculum Tool has several prompts relating to assessment, and Associate Lecturers reported some issues relating to STEM. It was frequently highlighted that, where a module did contain more inclusive content, this was often not part of the examinable material. In addition, many reviewers noted a lack of opportunity in peer learning activities for students to learn from one another's diverse lived experiences. Both observations suggest a view of STEM teaching and learning as one which centers the positivist aspects of STEM disciplines, with less value and relevance attached to individual and cultural lived experience as being a fundamental part of disciplines.

## Results from AL reviewer reflections

So far, we have considered only the results of the reviews as per the Inclusive Curriculum Tool's intended purpose. The Inclusive Curriculum Tool was designed to identify inclusivity issues in fixed, published module materials, with an understanding of 'curriculum' identified with the processes surrounding production and presentation of these fixed learning artefacts. What had not been in scope for an Inclusive Curriculum review was a review of Associate Lecturer practice, particularly the interactions between AL and student in tutorials and one-to-one tutor-student contact.

This section reports the unintended outcome of using Associate Lecturers to conduct the Inclusive Curriculum reviews. We had hired Associate Lecturers as reviewers primarily because of Associate Lecturers' familiarity and expertise with module materials. It was an unexpected outcome of the Inclusive Curriculum review process that it would have a transformative effect on Associate Lecturer practice in teaching and learning.

### Power and hierarchy

Many of the reviewers reported anxieties around the perceived power dynamics within the OU hierarchy. Behind these anxieties was a belief that their role as Associate Lecturers was viewed with a lower status than that of the module teams they were reporting to. A particularly common concern was doubt over whether their findings and views would be taken seriously:

- "I feel petrified about talking to module teams"
- "How receptive will they be to my comments and observations?"



- “[I will] hopefully meet with the module team but I don’t hold out much hope as the module chair does not seem very receptive to change, as well as the fact the module is on teach out.”
- “I do fear going into module teams as I am just perceived as an ‘AL’... I might need to qualify my background by stating that I have worked in HE for almost 30 years...”

However, reviewers also reported that their interactions with module teams had proven to be positive after all:

- “[The module team] really seemed interested in what I had to say.”
- “They seemed to value the points that I was making and be very grateful for them. I was really pleased with how well it went.”

One reviewer also welcomed the opportunity to have it made visible to them the complex collaborative social dynamics within a module team, and to be part of that collaborative conversation:

- “I did well in highlighting considerations rather than things that must be changed... [and I] acknowledged the difficulties they have with changing module materials, and especially when working with many team members who all have different approaches”.

One comment from a reviewer was particularly interesting:

- “I viewed it as an opportunity to reimagine my role with others”

For this reviewer, the Inclusive Curriculum Tool gave them the institutionally sanctioned legitimacy to break down perceived hierarchies.

## **Experience, lived experience and training**

Some reviewers also expressed anxieties around their confidence to talk authoritatively around Equity, Diversity and Inclusion (EDI) issues:

- “I have no background in EDI so how will my voice be valid?”
- “I was constantly sort of thinking ‘Well, what do I know about this?’”
- “I applied to do it because I was interested in it, not because I had any expertise in it.”

These anxieties were also realised in reviewers’ reflections on their own positionality and (perceived lack of) lived experience:

- “[I] constantly wondered, ‘Who am I to make these judgments with not being [in] a minority?’”
- “I am very conscious of the lens that I see things through that of a middle-aged white woman!”
- “...lack of confidence in knowing whether, what I was doing was right or useful, because of feeling like my lived experience was quite sheltered.”

However, it came across strongly in reviewers’ comments that the rigorous EDI training they underwent was crucial in overcoming these perceived obstacles:

- “Once I’d done the training, I had a very different perspective.”
- “Having the training encouraged me to reflect on the perspectives of other groups of people.”

## **Reflections on the Inclusive Curriculum Tool**

When asked about the Inclusive Curriculum Tool itself, reviewers reported the value in facilitating reflection on a range of perspectives on module content:

- “It has made me look at my practice through a range of different lenses.”
- “I think that the tool is important because it starts asking questions about what else needs to be changed for, actually, the tool to be effective.”

However, this was also reported as being overwhelming at times, in a way that sometimes seemed irrelevant or inappropriate:

- “Because it’s got so many sections, it allows it to be thoroughly analysed. But... [The Inclusive Curriculum Tool’s] weaknesses are that breaking stuff into individual parts is sometimes not relevant... I found myself putting

stuff in one box and then finding it repeated in another and just thinking, 'hang on, this is all related?'"

One reviewer also found that the Inclusive Curriculum Tool's focus on detail at the expense of the holistic was a significant limitation:

- "As an auditor, you're taking a micro-approach to it... It doesn't lend itself to significant structural changes for learning design or content, because [of] the way that you're not looking at the overall picture. You're looking at the tiny little individual elements."

Another reviewer also drew attention to the stage at which the Inclusive Curriculum Tool was being introduced, and called for its use much earlier in the learning design process:

- "I don't want this tool to be seen as an add-on. It should be a core part of the learning design process and become the backbone of any curriculum design process."

## **Transformative effects on AL practice**

The most prominent – and unanticipated – theme to emerge from the reflections and interview was the transformative effect the process of training, discussions, use of the tool, and reflections has had on the practice of the AL reviewers.

- "The whole process has really made me reflect as an academic and as a facilitator of learning."
- "[It] definitely made me reflect on my own practice."
- "It has made me think about my own pedagogy."
- "It has made me think about the language I use when I am giving feedback."

An enhanced awareness of the lived experiences of other people and the impact (positive or negative) educators can have were also highlighted:

- "I now give consideration of different perspectives or viewpoints."
- "...Internally, I certainly feel a lot better equipped to support students. Because I feel like I've got more understanding of how they may see module materials. Whereas before I just sort of thought, 'well, it's in the material'."
- "It's encouraged me to just really question any assumptions that I'm making and sort of be conscious about... assumptions."

# Discussion

Our findings yield two key insights. First, the curriculum review process highlights areas for potential improvement within existing materials, including language, imagery, data usage, case studies, and historical references. It was observed that relatively minor adjustments to these elements may help mitigate feelings of alienation among underrepresented students. However, the most significant impact was observed in the AL reviewers themselves and their subsequent self-reported tutoring practices. This suggests that achieving inclusion requires a greater emphasis on teacher characteristics, alongside curriculum content.

Although the ICT provides a useful institutional starting point for investigating inclusion within module materials, our findings suggest it is insufficient as a standalone intervention for creating an inclusive student experience. It can, however, serve as a vehicle for developing practitioners' understanding of inclusivity through discussion and expert-led training. However, the act of completing reviews of existing materials, particularly without readily available resources to implement necessary changes, offers limited value. Data from the ALs indicated the need for supplementary approaches, including high-quality Equality, Diversity, Inclusion, and Accessibility (EDIA) training, opportunities for dialogue among practitioners (especially sharing lived experiences of tutors and students), and careful consideration of institutional hierarchies. Many factors contributing to an inclusive learning experience, such as relational pedagogies centred on AL-student and student-student relationships, fall

outside the scope of the ICT and the review process. It is therefore strongly recommended that future work prioritise these relational aspects.

The ICT, as applied to existing curriculum, has raised stakeholder awareness, fostering dialogue, and providing impetus for EDIA initiatives within the OU. However, it is now essential to integrate a modified ICT into standard module production processes, coupled with a significantly enhanced staff development offer, especially for ALs, to improve their understanding of inclusion and enable them to modify their own practice. These goals would be further enhanced by actively involving diverse students as co-creators and by increasing staff diversity.

The ICT is a useful institutional starting point to investigate inclusion within our module materials however used alone it is insufficient to bring about an inclusive experience for our students. It can be used as a vehicle to develop practitioners understanding of the issues via discussion and guided by expert led training but the act of producing completed reviews of existing material, particularly when the sources to implement any necessary changes arising from the review are not available is of limited value. From the qualitative data gathered from our ALs it is apparent that additional approaches are required including high quality EDIA training, opportunity for dialogue between practitioners, specifically hearing about the lived experience of other tutors and students and careful consideration of institutional hierarchies. There are many factors which contribute to an inclusive learning experience which do not feature in the ICT and so are not involved in the review process. It is our strong

recommendation that future work in this space focusses on relational pedagogies, with the AL-student and student-student relationships at its heart.

The ICT, as used for existing curriculum, has now served its purpose. It has raised awareness amongst stakeholders, created dialogue and provided a useful drive forward for EDI in the OU. Use of the modified ICT in module production as BAU is now essential coupled to a consistent and much enhanced staff development offer to all teaching staff, especially ALs to improve their understanding of inclusion so individuals may modify their own practice in the future. These goals would be significantly enhanced with a prominent role for diverse students as co-creators and a more diverse staff base.

# Impact

## Student experience

The Inclusive Curriculum Tool was developed to bring about a more inclusive student experience. The intended impact of the types of changes identified in the Findings section above is to make a greater proportion of students feel that they belong and matter to the university, by including positive representation of their lived experiences.

However, because of the long lead time in making curriculum changes, we will not know how effective these changes have been for several presentations. This is a long-term series of changes, both material and cultural. Importantly, over the timescale of this project, we revealed no evidence of measurable impact on awarding gaps, despite this being one of the stated aims of the Inclusive Curriculum project.

## Teaching

An unintended, but important, outcome of this project was the effect that being involved in reviewing had on Associate Lecturer practice. This project develops a deeper understanding of the significance of inclusion for the Associate Lecturer role and the need for reflective staff development in the broader area of equity, diversity and inclusion.

Importantly, our work suggests that the question of whether a curriculum is inclusive or not is not solely a function of the written materials, but must be supplemented by compassionate and inclusive tutor-student interactions.



Our work also reveals that the perception of institutional hierarchies of power and position in teaching can be a barrier to undertaking inclusion activity but can also be mitigated by institutional backing of tools such as the Inclusive Curriculum Tool.

## Strategic change and learning design

This project has led to significant influence on the development of Version 6 of the Inclusive Curriculum Tool via participation of project team members in institutional workstreams. Through this work, there has been recognition of the importance of considering Inclusive Curriculum at the learning design stage, rather than as an auditing tool for extant curriculum. This has led to workstreams involving LDS to design greater inclusion in module production.

In subsequent iterations of the STEM Inclusive Curriculum Project, we have seen greater awareness of inclusion in module authors in production, and fewer issues being identified in reviews of newer modules.

## Recommendations

### Shift Inclusion focus to Practitioner Development:

- **Enhanced Staff Development:** Implement comprehensive and ongoing EDIA training for all staff, with a particular focus on ALs.
- **Foster Dialogue and Collaboration:** Create opportunities for ALs to share their lived experiences, engage in peer-to-peer learning, and participate in open dialogues with students.

- **Address Institutional Hierarchies:** Acknowledge and address the influence of power dynamics and institutional structures on inclusive practices.

#### **Integrate Inclusion into Module Production:**

- **Embed ICT in Module Development:** Integrate a modified version of the ICT into the standard module production process to ensure inclusive considerations from the outset.
- **Prioritise Student Co-Creation:** Actively involve diverse students as co-creators in curriculum development to ensure authentic representation and address student needs directly.
- **Increase Staff Diversity:** Promote a more diverse workforce to better reflect the student population and foster a more inclusive learning environment.

#### **Focus on Relational Aspects:**

- **Prioritise Relational Pedagogies:** Emphasise the importance of strong student-student and AL-student relationships, recognising that these interpersonal connections significantly contribute to an inclusive learning experience.



# Dissemination

## Deliverables

[Butler, Diane](#) and [Potter, Andrew](#) (2024). [What does an inclusive STEM curriculum look like? \(And why it matters...\)](#). In: *Horizons in STEM 2024*, 26–27 Jun 2024, Bristol.

[Butler, Diane](#); [Potter, Andrew](#) and [Wood, Peter R H](#) (2023). [What does an inclusive STEM curriculum look like in an online learning context?](#) In: *ISSOTL23: Context Matters*, 8–11 Nov 2023, Utrecht, The Netherlands.

[Potter, Andrew](#) and [Butler, Diane](#) (2024). [Building Inclusive STEM Curriculum: A Practical Approach for Open and Online Education](#). In: *I-HE2024 – Innovating Higher Education Conference 2024*, 23–25 Oct 2024, The Open University of Cyprus, Limassol, Cyprus.

Veuger, Stephany Jane; [Butler, Diane](#); [Wood, Peter](#) and [Potter, Andrew](#) (2023). [Inclusive Frameworks in Online STEM Teaching and Learning](#). In: Keengwe, Jared ed. *Handbook of Research on Innovative Frameworks and Inclusive Models for Online Learning*. IGI Global, pp. 28–51.

## Figures and tables

Table 1: The prompts from version 4 of the Inclusive Curriculum Tool

Table 2: Modules selected for ICT review Phase 1

Table 3: Modules selected for ICT review Phase 2

## References

Anti-Racist Curriculum Project Working Group (2021). *The Anti-Racist Curriculum Project Guide*. Advance HE, QAA, Scottish Funding Council. Available at: <https://www.advance-he.ac.uk/anti-racistcurriculum-project/project-guide> (Accessed: 6 March 2023).

Bhambra, G. K., Gebrial, D., & Nişancıolu, K. (eds.) (2018). *Decolonising the University*. Pluto Press: London.

Braun, V. and Clarke, V. (2006) Using Thematic Analysis in Psychology. *Qualitative Research in Psychology*, 3, 77-101.  
<http://dx.doi.org/10.1191/1478088706qp063oa>

DMU (no date) *Decolonising DMU – Toolkit*. Available at <https://decolonisingdmu.our.dmu.ac.uk/staff/toolkit/> (Accessed: 6 March 2023).

Hughes, G., & Spanner, L. (2019). *The University Mental Health Charter*. Student Minds. Available at <https://www.studentminds.org.uk/charter.html> (Accessed: 6 March 2023).

Kingston University (no date). *Inclusive Curriculum Framework*. Available at <https://www.kingston.ac.uk/aboutkingstonuniversity/equality-diversity-and-inclusion/our-inclusive-curriculum/inclusive-curriculum-framework/> (Accessed: 6 March 2023).

Manchester Metropolitan University (MMU) (no date). 'Inclusive Curriculum Toolkit'. In *Inclusive Curriculum Resources*. Available at <https://www.mmu.ac.uk/about-us/professional-services/uta/inclusive-curriculum-toolkit> (Accessed: 6 March 2023).

SOAS (no date). *Learning and Teaching Toolkit for Programme and Module Convenors – Decolonising SOAS*. Available at <https://blogs.soas.ac.uk/decolonisingsoas/learning-teaching/toolkit-for-programme-and-module-convenors/> (Accessed: 6 March 2023).

University College London (UCL) (no date). *The UCL Inclusive Curriculum Healthcheck*. Available at <https://www.ucl.ac.uk/teaching-learning/education-strategy/1-personalising-student-support/bame-awarding-gap-project/ucl-inclusive> (Accessed: 6 March 2023).



## **University approval processes**

If your project required specific approval from university committees, please provide the appropriate information below. This is a necessary requirement for future publication of outputs from your project.

Ethical review – An ethical review was sought according to the Open University's code of practice and procedures before embarking on this project. Reference number (HREC/4424/Butler: HREC Review).





