An analysis of STEM decolonising activity within UK Higher Education Institutions

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August 2025

Keywords: STEM, decolonising, computing, inclusion

The Open University

eSTEeM
Centre for Scholarship and Innovation
Science, Technology, Engineering and Maths

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The issue investigated and why

For too long the Eurocentric dominance of what and how we teach has continued to be at the expense of those on the peripheral and decolonisation of academia presents an opportunity to challenge the UK higher education sector as it is positioned to disrupt traditional knowledge sources through creating a space for those who have been marginalised. Yet only 20% of UK Universities claim to be decolonising themselves or their curriculum (Mason, 2022) and these efforts tend to be sited in the social sciences; as Science, Technology, Engineering and Mathematics (STEM) remains entangled with the legacies of colonialism as a 'science' based on 'facts'. Notwithstanding the confusion on what decolonising academia means and what it practically implies, the aim of this research is to discover what decolonising activity is currently underway within the discipline of computing, which sits within STEM.

The aim of this research is therefore to showcase via a comprehensive audit the current range of decolonising computing activities underway within UK Higher Education Institutions (HEI's). Sharing our findings we hope to build awareness in the STEM community of how to decolonise through real examples from the sector. STEM as with all disciplines needs curriculum transformation and we hope that our findings speak to Costa et al.'s (2023) call to social justice and leads to a reimagined curriculum which represents all voices and knowledge production.

Brief outline of the scholarship methods

The first method to collect data was via an extensive desk top survey of over 40 public facing websites which included all Russell Group Universities and Athena Swan HEI's. Researchers used an exploratory approach through specific key words searches based on the research question to identify relevant decolonising activity. These findings were captured in a standardised template. Thematic analysis was subsequently used to catalogue activities, and eight emerging themes were identified.

The second method of data collection was to run a short online survey with computing practitioners using purposeful sampling. The survey consisted of 5 questions and was distributed to computing practitioners who had attended UK and Ireland Computing Education Research (UKICER), at the University of Swansea in September 2023 and who had agreed to participate in our research. An online form was distributed via email during October 2024 and resulted in a 58% (n.9) response rate.

The main findings and impact

The original project brief was to focus on the discipline of computing within STEM, but initial findings confirmed our suspicions that there either HEI's are not undertaking decolonising activity within computing or if they are, they are not publishing in the public domain. The audit was however discovering decolonising activities within STEM and by default this includes computing within Technology and the decision was made to widen the search to include STEM.

In terms of findings the audit has uncovered a plethora of activities that are often student led, co-created with others both within STEM and across the university with a range of stakeholder groups and externally within other UK HEI's and internationally. Decolonising activities are underway using a range of multi-media resources. HEI's have produced self-help guides in toolkits and run events such as workshops. There are examples of both digital and physical hubs, and the use of research to share the experiences of undertaking this type of work. Decolonising activities are often linked to EDI strategy, Access and Participation Plans and Race Equality Charter aims, and noticeably under the catchall of curriculum development.

By showcasing STEM decolonising activities, we hope to either ignite practitioners as to what is possible or to expand the knowledge base upon which decolonising activity can continue with confidence. We hope that our mapping of the terrain can move beyond speaking about decolonisation to *doing* this important work.

The recommendations and implications of this work

Decolonising STEM education requires a deliberate, sustained effort to challenge Eurocentric norms and foster inclusive, representative curricula. The following recommendations are derived from an extensive audit of UK Higher Education Institutions and aim to support educators and institutions in embedding decolonial practices within computing and more widely within STEM disciplines.

1. Clarify and Contextualise the Meaning of Decolonisation

Institutions must begin by fostering a shared understanding of what decolonisation entails. This includes recognising that decolonisation is not

synonymous with equality, diversity and inclusion, but rather a deeper interrogation of knowledge systems, power structures, and historical legacies. Workshops, reading groups, and reflective practices should be embedded into staff development to encourage critical engagement with the concept.

2. Embed Decolonisation in Institutional Strategy

Decolonisation should be a strategic priority, integrated into Equality, Diversity, Inclusion and Accessibility (EDIA) frameworks, Access and Participation Plans, and Race Equality Charter initiatives. Institutions should allocate dedicated resources, including funding for staff and student time, to support short and long-term decolonising efforts. Strategic plans must include measurable goals and accountability mechanisms to ensure progress.

3. Foster Student-Staff Collaboration

Student voices are central to decolonising work. Institutions should continue to support student-staff working groups, co-create curricula, and support student-led research and resource development. Paid student researcher roles, as demonstrated in the audit, are an effective model for meaningful engagement and capacity building.

4. Develop and Share Practical Resources

Educators need access to discipline specific resources that support curriculum transformation. Institutions should invest in the creation and dissemination of toolkits, podcasts, videos, and case studies that illustrate decolonising practices in STEM. Open-source platforms can facilitate sector-wide sharing and adaptation as is currently being demonstrated on OpenLearnCreate and the Diverse Computing repository.

5. Promote Interdisciplinary and Cross-Institutional Collaboration

Decolonising STEM benefits from collaboration within STEM, across disciplines and institutions. Partnerships internally with social sciences colleagues and externally with public organisations such libraries and museums, and professional bodies can enrich STEM curricula and foster innovative approaches. National and international collaborations, such as those with First Nations initiatives or European universities, should be encouraged.

6. Create Dedicated Spaces for Decolonial Practice

Physical and digital hubs can serve as focal points for decolonising activity. These spaces should support community building, resource curation, and ongoing dialogue. Examples include education incubators, campaign hubs, and inclusive curriculum centres. There should be investment in both physical and virtual decolonial spaces.

7. Recognise and Reward Decolonising Efforts

Institutions should establish awards and recognition schemes that celebrate impactful decolonising work in STEM such as Open University STEM Recognising Excellence Award. This includes acknowledging curriculum redesign, inclusive teaching practices, and community engagement. Recognition helps validate and sustain efforts across the sector.

8. Ensure Sustainability and Avoid Tokenism

Decolonising initiatives must be embedded into institutional culture to avoid being superficial or short-lived. This requires long-term commitment, regular evaluation, and integration into core teaching and learning practices. There should be efrorts to avoid over reliance on checklists; instead, promote critical reflection and iterative change.

Aims and scope of the project

Broadly the aim of the project is to investigate UK universities which have begun to transform their curriculum by mapping the terrain of HEI decolonial activity within STEM through a desk top audit and a survey of computing practitioners. The scope of the audit initially focussed on the Russell Group Universities and then was expanded to include Athena Swan Gold and Silver award holders as of November 2023 based on the award holder list according to Advance HE at the time (see Appendix A). For a current list of award holders visit the site at Advance HE (2025).

Objective 1

The first objective is to conduct desk research to identify decolonising STEM and specifically computing and IT activity within UK Higher Education Institutions by looking at public facing websites for evidence and so to chart or map the terrain. The results will be presented in a case study format. In more detail this objective is broken down into the following tasks:

1. To produce a UK HEI map of decolonising Computing and IT activity.
2. To undertake a critical review of decolonial activity as published on public facing websites.
3. To catalogue activity via themes emerging of what this activity looks like with examples to illustrate.
4. To draw broad trends in terms of decolonising approach taken with the aim to categorise.
5. To present findings via case study templates.

6. To produce a guide with suggestions of best practice e.g. How to start decolonising guidance.

Objective 2

The second objective is to survey STEM Computing and IT educators within HEI to document decolonising activity within their institution. The focus is to understand their awareness of the topic, the challenges to start or continue with the decolonising STEM work and how they feel the sector can progress with this transformation of what and how we teach. In more detail this objective is broken down into the following tasks:

1. To survey STEM academics across the HEI sector. First via a small-scale pilot questionnaire followed up by in-depth semi-structured interviews.
2. To understand from the survey outcomes what decolonising activity is underway, planned and the achievements and challenges so far.
3. To analyse results to inform future practice.

Activities

We undertook a range of activities including attendance at a Works in Progress peer review at UKICER; a desk top audit undertaken by paid student consultants; production of a standardised template for data capture; and an online questionnaire survey amongst practitioners.

UKICER Work in Progress Peer Review

To add validity to our approach the project team attended the UKICER conference at Swansea University in September 2023 and presented at the inaugural Works in Progress peer review. As a result of the feedback, the audit scope was expanded to include Athena Swan Gold and Silver award holders (Advance HE, 2020) and this increased the scope from 24 to over 40 HEI's. The full list of audited HEI's can be found in Appendix A.

Desk top audit

Through a desk top based audit, we aimed to identify what decolonising activities were underway at the 24 UK Russell Group universities (Russell Group, 2025) within the discipline of computing which sits within the Technology part of STEM. The intended approach was to use popular search engines such as Google and key words searches through a combination of terms including "decolonising", "computing", "STEM" and the name of the university. Through drilling down the layers of institutional web pages we hoped to find evidence of activity that was published under an explicit label of decolonising within the discipline of computing. We intended to conduct the research solely online via accessing HEI public facing webpages. In terms of task allocation, the plan was to divide the research equally between the 3 project team members so we each would audit 8 HEI's.

As was intended the desk top audit commenced with the individual project team members each investigating a sample of HEI's and capturing insights via a standardised template. Early insights revealed our initial suspicions that there was little evidence of decolonising activity within computing. At this point a decision was made to increase the scope to look beyond the discipline of

Computing to the wider STEM group, which by default includes computing within Technology.

Following the increase in project scope to include Bronze and Silver Athena Swan Universities the number of HEI's increased and to resource this extra activity the decision was to increase the team. Subsequently 3 paid student researchers were recruited (see 'student researchers' below).

Standardised template

Adopting a test and learn approach to the data capture, a template was devised to standardise how the data was recorded by the auditors. This was produced by the project lead, and then trialled by the other 2 project team members, with minor adjustments leading to a finalised template and this is visible in Appendix B. As the project team expanded to include student researcher, the template continued to be used to capture research findings.

Practitioner Survey

The second approach to data collection was to conduct a survey amongst practitioners within STEM Computing and IT educators. We wanted to explore the current level of awareness, the challenges to start or continue decolonising work and practitioners' ideas on how to progress with this form of curriculum transformation. A short pilot survey was intended to inform our intention to follow up with more formal semi-structured in-depth interviews with the same group of participants.

Email invitations were sent to 16 practitioners who had attended UKICER conference in Swansea and who had in principle verbally agreed to the survey, hence using a purposeful sampling approach. The short questionnaire consisted of 6 questions, see Appendix C. Questions 1-4 were pre-populated with options, whilst Question 5 used a five-point Likert scale and Question 6 was free text for qualitative responses. The response rate was high with 9 respondents (56%) completing the survey. The participants represented six universities including University of Chester, Durham, Kent, Leeds, Sheffield Hallam, and Swansea and the Raspberry Pi Foundation.

The results from this small scale survey are discussed fully in the Findings section, but in order to explain a change of direction for the project, an explanation is given here based on the initial results which indicated strongly that there was either no decolonising activities currently underway or no awareness of any activities, as 6 out of the 9 HEI's represented by the participants choose 'none' when asked question No 2, "what decolonising activities have you undertaken with colleagues within your University?". Although this does not mean that there were no decolonising activities being undertaken within computing at their institution, as the participant may lack awareness, it did however imply that our initial intention to gather data of existing activities was too optimistic; as we were assuming that there were some decolonising computing activities in action, but perhaps they were just not being disseminated on public facing websites. Given that these initial results could be generalised to represent all computing departments within the sector, there was a realisation to balance the effort required to implement the semi-structured interviews against a probability of generating the same response but simply from a larger population sample. It was

therefore deemed too high a risk to ask the same question only to hear the same response. Afterall we are trying to discover what decolonising computing activities are happening, as opposed to reporting on what is not happening.

Student researchers

Following the increase in scope from 24 HEI's to over 40, the project lead decided to seek additional resource capacity in the form of student researchers (SR's). By securing eSTEeM funding, the project lead was able to formally advertise the role via an Expression of Interest to those students signed up to the eSTEeM Students as Partners Framework. As a formal recruitment and selection process, applicants were asked to complete a pre interview task and attend a brief informal interview. This led to a small team of 3 SR's being appointed in a paid consultancy role for a total of 20 hours each for three months during October to December 2024.

Following the successful appointment of 3 SR's, a team briefing session explained the task and nature of the audit via illustrating a completed exemplar using the template to explain the standard required and simultaneously looking at the website of the HEI in real time. This allowed the SR's to see for themselves the range of decolonising activity that is underway at most universities in some shape or form, and to emphasise the primary focus on decolonising computing but that activities withing the wider STEM space can also be captured.

The HEI's were subsequently allocated evenly, and each SR was responsible for auditing 12 HEI's. The researchers were encouraged to focus on decolonising activities firstly within the discipline of computing and then more widely within the

context of STEM. The SR's were encouraged to adopt the same original key words although choose to expand the search terms to a fourth term "inclusive".

Each SR was supported by one dedicated project team member and regular check in meetings helped to support the data collection and meet the deadlines. The SR's were also encouraged to share their approaches and findings via meetings, which they did independent of the project team. A final all project team meeting was held, and each SR was invited to present their findings. Each SR submitted a final report in addition to the 12 individual completed template, one per HEI. All meetings were held remotely via MS Teams.

Findings

The lack of explicit evidence of decolonising computing has not limited the findings of this project as the scope widened to consider the wider STEM discipline where there are widespread decolonising activities underway. The audit has uncovered that these decolonising efforts are co-created and often student led but extending to include other discipline areas and other stakeholders such as library staff. The range of decolonising activity is illustrated through multimedia including podcasts and videos. HEI's are keen to share examples of self-developed toolkits and guides explicitly as a tool to encourage educators to start their own decolonising journey. When there are operational initiatives, these appear to come from the ground up, with the first step the setting up of a working group by a small group of individuals who are already active in the EDI space, followed by workshops and then a project to produce a resource such as a 'How to Guide' or toolkit. Sadly though, far too often many of these initiatives seems to then fade away.

The following section discusses the eight themed activities discovered, with examples to illustrate the practice within the sector. As preliminary findings they do not claim to be the only or indeed the best examples of decolonising activities within STEM, but they go some way to illustrate what the project set out to do, which was to map or chart the terrain of the decolonising practice within STEM within the UK Higher Education sector.

Collaboration

When there is a university wide decolonisation policy this is often linked to educator working groups both within and across the STEM disciplines, for example The School Of Informatics at the University of Edinburgh (2024) is one of many working groups across the university set up to making its curriculum inclusive via decolonising initiatives. There are also many student-staff working groups as they were found to be a highly popular approach to decolonising activity. There was also evidence of a broad range of collaboration with internal professional services such as faculties joining up with library colleagues. There was also external collaboration with public bodies such as museums with projects such as archive reviews. There is also joined up decolonising efforts with professional computer associations and between UK universities

Collaboration is not limited to within the UK HE as a large body of progressive work including a First Nations engineering studio at The Australian National University and a paper on indigenous protocols for AI evidenced collaboration beyond the UK. The University of Edinburgh also has a collaboration with universities in Spain and Belgium and are widely publishing practical advice as well as debate. The use of 'yarning circles' at Curtin University in Western Australia is promoting conversation in the decolonial space and confirms that there is decolonising practice worldwide. See the case study in Appendix D.

Research/Scholarship

The audit identified that those who are decolonising are also writing about their efforts or encouraging others to start the curriculum transformation through

publishing their personal views on why they believe in decolonising. For example, at the University of Bristol, Dr Eichhorn (2019) wrote 'How the West was Won: A Deconstruction of Politicised Colonial Engineering' but from a lens that categorises computing as engineering. Similarly, there is a focus by Mitra et al (2023) from Edinburgh University on engineering in relation to how modern technology companies hold extreme power and wealth and that we as educators have responsibility to 'decolonise engineering projects' if we are to disrupt the ongoing influence of colonialism. Other more general articles of interest which are applicable to STEM include Schucan and Pitman (2019) who highlight the tendency for existing reading lists to only represent the white male voice and argue for review to 'deconstruct disciplinary boundaries'. Whilst in the field of medicine we found scholarship outputs being used to promote decolonising frameworks and a self-assessment tool in support of science educators who wish to start curriculum transformation (Mbaki et al, 2021). See Appendix E.

Resource Curation

HEI's have produced web pages, blogs, podcasts, videos, guides and toolkits to disseminate the range of efforts underway at decolonising the curriculum and within the broad STEM field, see Appendix F. Quite noticeable was the lack of any resource that is focussed solely on the discipline of computing.

Encouragingly there is evidence of activities building on earlier decolonising actions, which suggests that some HEI's can maintain decolonising efforts despite the obstacles that they may face. For example, Liverpool School of Tropical Medicine (LSTM) has an ongoing project to digitise their archives. LSTM then used Black History Month (2024) to disseminate their efforts by hosting a

panel discussion with external invited guests. Aligning internal decolonising activities with targeted national events helps to give visibility to those who are creating change, and this is another example of how decolonising activities are using multiple approaches to both continue and promote decolonising work.

Events

HEI's are organising a variety of events which tend to be talks and discussions via panels, workshops, roundtables and lectures, see Appendix G for a case study. The events vary in that they can be internal to the University staff and students or open to all. Events are a mix of online delivery, in person or hybrid. Some events require tickets, others do not. One example at University of Glasgow (2023) within the College of Science & Engineering was to run two online workshops with the aim to bring together potential external voices to develop a stronger community of practice network. The facilitators used a Padlet to capture participant input and have since shared the recordings. Many events seem to focus on empowering those who attend with the tools to start curriculum transformation through challenging Eurocentricity and exploring practice beyond the status quo.

Awards

There was no specific award identified that celebrated decolonising activity within computing or STEM. Where there was celebration, this seemed to blend in with other EDI initiatives within the institution for example at Bristol University, a PhD chemistry student was awarded the STEM Learning Award for setting up the Creative Tuition Collective (2023) within the local community to improve inclusion and diversity within STEM. Although not yet in recognition of STEM module level

efforts, Kent University (n.d) celebrate course content where a diverse range of resources offer an inclusive learning experience by issuing a Diversity Mark, see case study in Appendix H. As this is a collaborative programme run with student specialists who work with the convenors, our SR's felt that this was an initiative that could and should be expanded to include STEM modules and so is worth a highlight because of its focus on evidence and so is not just another tokenistic toolkit.

Physical or Online Hub

The specific focus of this theme is on the physical or online presence of a dedicated hub or studio, such as a computing education research centre or a centre for academic inclusion in the STEM curriculum. Again difficult to pinpoint to decolonising computing or even more widely within STEM, but there is evidence at the University level of creating such spaces. For example, in an aim to transform education, the University of Exeter (nd) have established an Education Incubator initiative under the direction of 'to be fearless …to reimagine education and the possibilities it can realise'. This includes a programme of activity to decolonise the curriculum with a range of student led projects relating to EDI within the University and beyond. Connected to the incubator there is a blog post on 'Decolonising STEM – what is this all about?'. The blog author reviews a project where decolonising ideas are shared in a sandpit of academics and professional service staff, subsequently extended to student interns which culminated in a mini symposium targeted specifically to STEM colleagues. This bringing together of staff and students is replicated at the University of Durham (2025), by way of a Hub, the Student Union body are leading a Decolonise Durham Campaign to think

critically about education and the university. Students including those in science, are represented giving their personal views on their role as decolonising agents of change.

Curriculum Development

In recognising the need to share and nurture decolonial teaching and research methods both across the University and within discipline areas, it is no surprise that curriculum development was a constant theme in all the activities that involve decolonisation. Therefore, although there are several examples to draw upon, one HEI that stood out is Nottingham Trent University (n.d). Navigating through the Library home, to a page called Supporting Curricula Development, there is an explainer of 'what is meant by a decolonized education' from the perspective of an academic from University of Cape Town in South Africa; a refreshing change to hear a voice outside of the normal canon. Here you will find discipline specific resource lists (although you need to be a staff/student member to access). There are also a set of critical questions for discipline areas to consider and there are links to external resources, such as decolonising podcasts. A similar whole university approach to decolonising is to be found at Aston University (nd), which through their working party have established a 'process of revising the principles of curriculum design, content and delivery, toward a decolonised teaching and learning system'. See Appendix I for a case study.

Strategy

Decolonising is a feature of many HEI's strategic plans and can be found referenced in Annual EDI reports, Race Equality Charter (REC) taskforce aims, and within Access and Participation Plans (APP). Often these plans discuss the institutional aim to reduce the awarding gap and to support specific groups of students e.g. from Ethnic minority groups, students with disabilities or from low social economic backgrounds. For example, within the University of Bath APP (2024, p.23), there is a bottom-up goal to work in partnership with their student bodies on implementing an inclusive curriculum. Part of this approach is to facilitate the establishment of 'Decolonising curricula' student groups in Engineering, Science and Humanities. Recognising that students are key to decolonise the curricula, groups of students and staff are working together to co-create projects and resources to ensure that all students are represented within the curriculum. At University of Brighton (2020) decolonising the curriculum is within their EDI plan of achieving the REC award and there are specific actions involving student collaboration to decolonise the science research and education practice.

Survey results

The survey participants reported knowledge of a limited range of decolonising computing activity underway within their institutions. Where activities were reported there was alignment with two of eight identified audit themes. Theme one of resource curation via reading lists (44%), case studies (22%) and guides (11%) and the second theme of scholarship (11%). However, a third of the respondents also reported that there is currently no decolonising computing activity underway at all at their institution. See Table 1 below for examples of the range of decolonising activities underway.

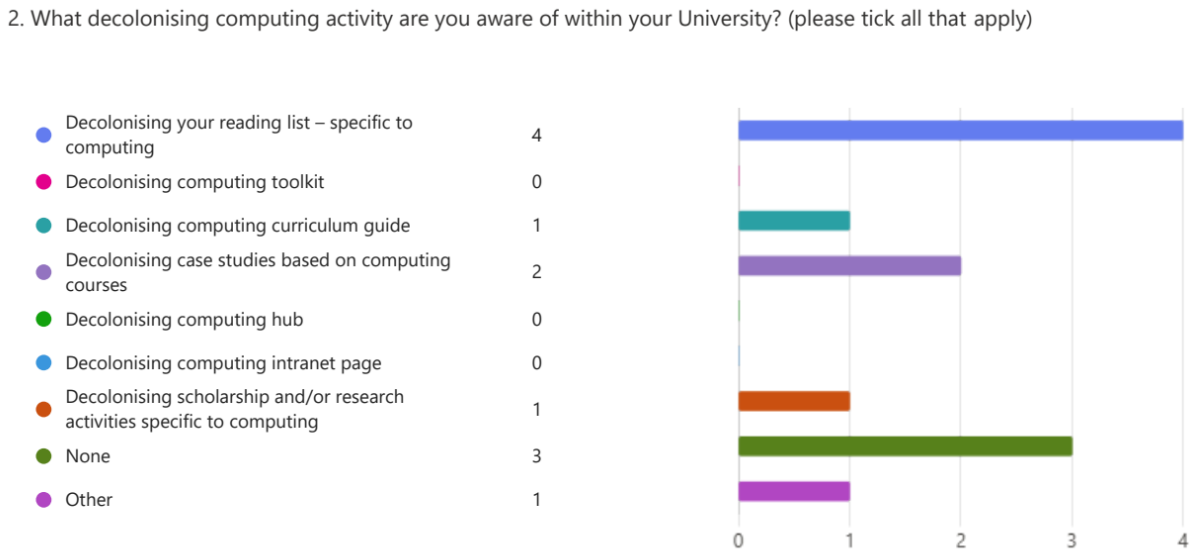

Table 1: Examples of decolonising activities

In terms of who is doing the decolonising work, then when these respondents self-reported on their own involvement, then the majority stated that they were not involved (66%). When there was decolonising activity with computing colleagues then this either involved collaboration within the wider STEM discipline areas or was external to STEM. The nature of these activities included working parties,

networks and workshops and the results are in Table 2 below.

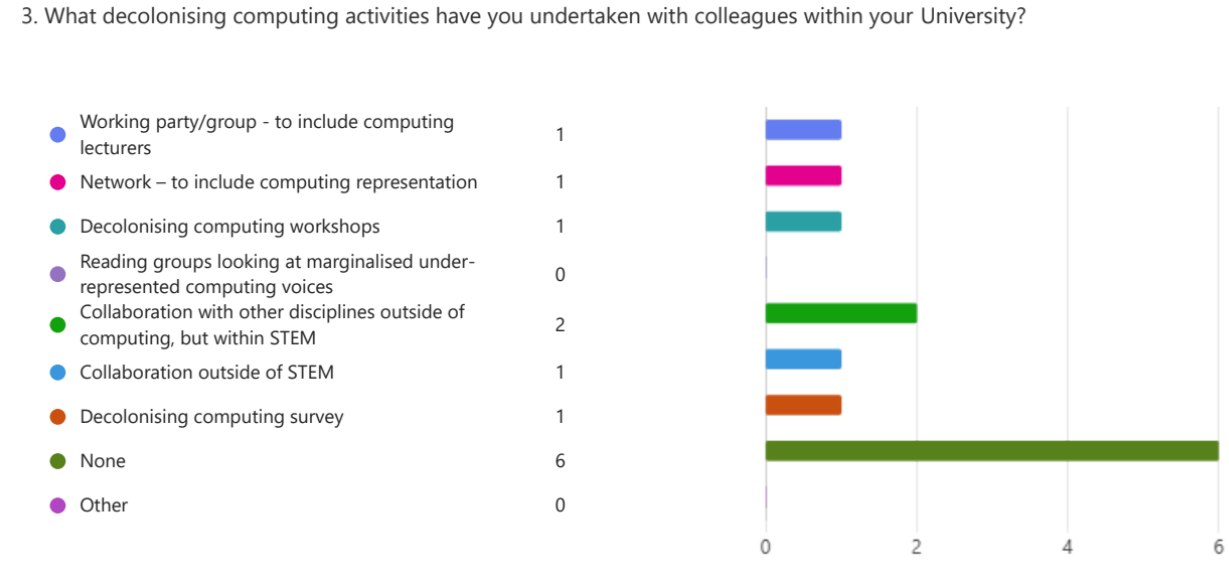

Table 2: Examples of decolonising activities between computing practitioners and colleagues

When the respondents were subsequently asked about decolonising computing activities with computing students, again most respondents (66%) were not involved. Where there was evidence of collaboration with computing students the format either consisted of a student working party group or collaboration with the Student Union body. These results are displayed in Table 3.

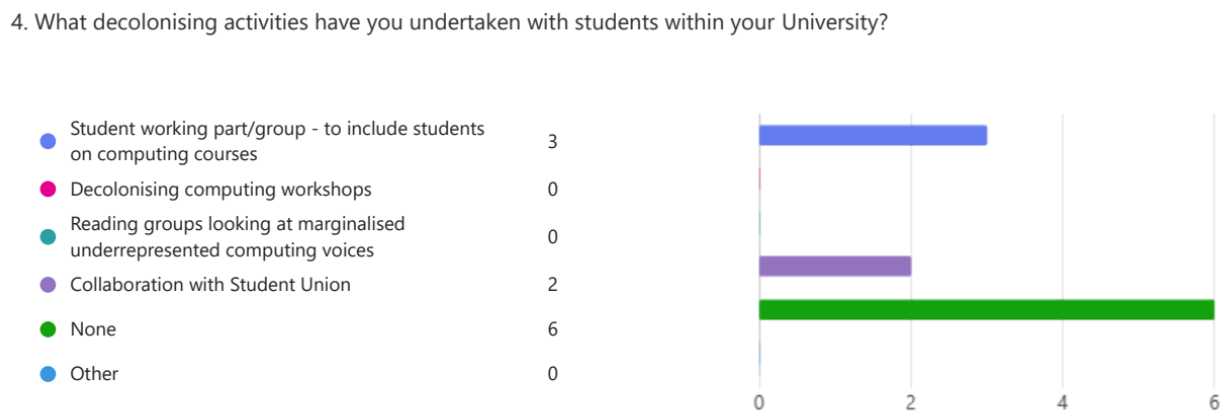

Table 3: Examples of decolonising activities between computing practitioners and students

The final question asked the respondents to consider the challenges to decolonising computing at their HEI. The biggest challenge, confirmed by 8 out of the 9 participants was the lack of awareness of what it means to decolonise computing. Equally challenging is the conflation of decolonising with EDI and not knowing how to include those who are marginalised within decolonising activities and limited time for reflective practice. These results are shown below in Table 4.

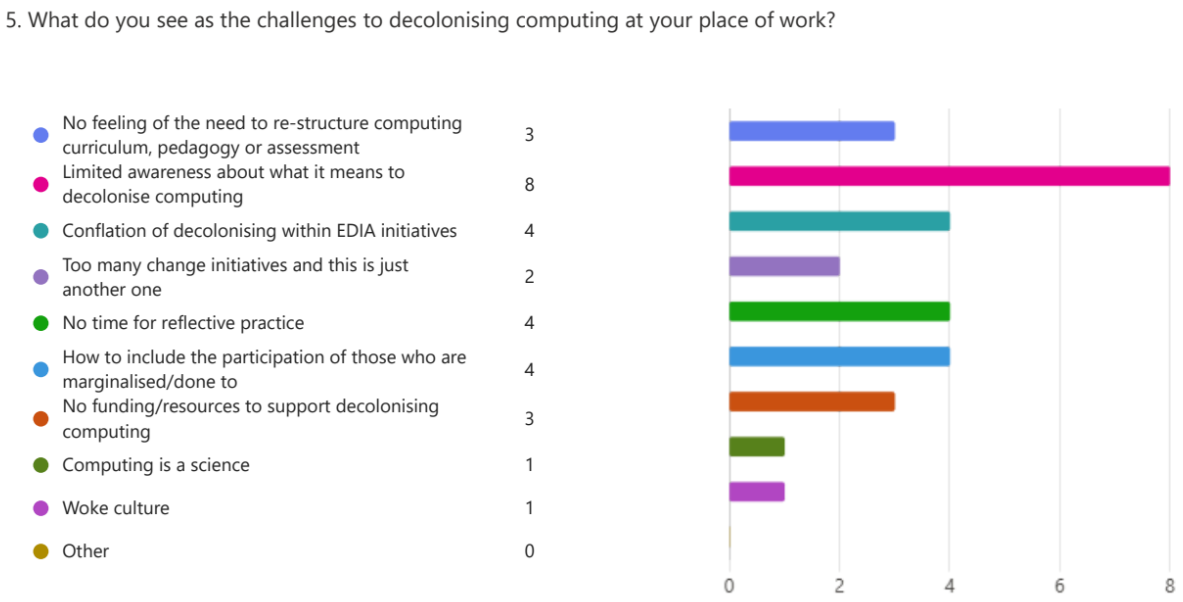

Table 4: The challenges of decolonising computing

The final question was a free text opportunity for participants to share any further comments regarding decolonising computing and 4 out of the 9 particpants added their thoughts. Demands on time was a dominant theme with one practitioner stating, "the time problem is the biggest barrier" and citing that their university has been in "survival mode" for the last two years. Another practitioner

felt the lack of time combined with lack of knowledge was the main barrier to decolonising computing. Practitioners also took the opportunity to make recommendations with one suggestion to ensure that the "work is centred on the lived experiences of underrepresented groups" and further adding that decolonising needs to be embedded across institutions so to include "policy, curriculum and teaching". To overcome the barriers there was one recommendation for a guide for both academics and heads to address the lack of understanding and time constraints.

Summary

Survey participants reported limited awarness of decolonising computing activities within their institutions with a third indicating no such activity was currently underway. Those who did report activity, noted these efforts focussed on resource curation e.g. reading lists (44%), case studies (22%), and guides (11%). However, most respondents, two thirds, stated that they were not personally involved in decolonising work. Where collaboration was present it was across STEM or with groups outside the wider discipline area and manifested in the form of working parties, networks and workshops. Again most participants (66%) were not collaborating with students although there was some awareness of students involved in decolonising activities.

In terms of the most significant challenge, this was a lack of understanding of what decolonising computing entails, as cited by 8 out of the 9 participants. The confusion between EDI and decolonisation is another barrier, as is the lack of time for reflective practice and how to include marginalised voices in any decolonising activities, although going forward centring the word on lived experiences is seen

as important. One solution to the dual challenge of being time poor and lacking knowledge was the suggestion for an easy to use guide for both practitioners and managers.

Impact

Student experience

The three student researchers all achieved the Student Partner in Education Research OpenLearn certificate. One student was fully funded to attend the Westminster Forum e-conference 'Priorities for diversity in the UK tech workforce' and disseminated the key findings to the project team. A final project meeting was held to share experiences and each researcher wrote a reflective piece on their individual findings and of the collaborative experience. The researcher team were also mentored by the project lead to submit a successful abstract to RAISE 2024 Equity in Attainment and Student Success at University of Leicester September 2024 which they attended in person and delivered a presentation on their reflections of the project and was the best attended session of the conference.

Teaching

A variety of dissemination has taken place throughout the project life, ranging from posters, workshops, presentations to UK and international audiences both in person and virtually. For example an international audience was present at the International Education Conference (iCERI2023), Saville, Spain in November 2023. Here the project team designed and presented in person a poster. A second international audience was present at the Innovating Higher Education Conference (I-HE2024), Cyprus in October 2024, where the project lead delivered an in person 'STEM decolonisation in practice' presentation.

Earlier in the year the project team facilitated two workshops at UK national events focussing on sharing the findings from the dominant themes of collaboration and resource curation. The first workshop, 'STEM decolonisation in practice: Resource bank curation', was delivered at Birmingham City University in June 2024 as part of the BCU and De Montfort University Decolonising Lecture Series. Building on this approach a second workshop, STEM decolonisation in practice: Student and staff collaboration' was delivered to computing educators at UKICER Conference, University of Manchester in September 2024.

Other media were also used to engage different audiences for example the project team also were invited to deliver a webinar to British Computing Society (BCS) Hampshire Branch, jointly with BCS Dorset Branch and BCS Women SG "Decolonising Computing: Insights into mapping of UK activity within Higher".

Strategic change and learning design

As decolonising the curriculum aligns with the UNESCO's new social contract for education, we shared our experience of working with student researchers as partners and explored strategies for engaging students in further educational research. We shared our experinces at the OU Blurring Boundaries Festival, June 2024.

Earlier in 2024 we also participated in the two day eSTEeM conference by producing a poster for display, a pre recorded talking head of the poster and faciliated an in person workshop sharing 'student perspectives on decolonising'.

Recommendations

This project offers several transferable elements that could be embedded across all higher education institution to support decolonising efforts in any discipline area and therefore provide useful insights into not just how to decolonise computing, but how to decolonise the STEM curriculum and perhaps even how to decolonise the university.

Firstly we need to clarify the meaning of what does it mean to decolonise as this is often a barrier to taking the first steps to curriculum transformation and was cited as the main challenge in the practitioner survey. Having this conversation might also help address the uncertainty between EDI work per se and decolonising. Encouraging decolonisation as part of a top down strategy will strengthen the importance of the work required and may lead to greater student and staff engagement. Creating dedicated hubs for dialogue and work activities can serve as a physical space in tradtional universities, but for online distance learning providers, like the OU, we need to think more carefully about how we re create the same space virtually.

Using tools such as a standardised audit template for mapping decolonising activity across HEIs is a practical approach and can be adapted to assess current practices and identify gaps. The OU already has an established Inclusive Curriculum Tool which offers a structured approach to broad EDIA issues and this could be further emdeded into module production and mid life reviews to ensure a decolonial lens is also considered. Concerns over tokenism are valid, and there must be efforts to ensure that initiatives are future proofed so that change becomes ongoing and normalised.

The student researcher model, where students were recruited, trained, and supported to conduct audits, exemplifies meaningful student/staff partnership and could be replicated to foster inclusive research and curriculum development. Recommended practices include forming student-staff working groups to co-create decolonising initiatives, hosting events and workshops to raise awareness and build community, and aligning activities with strategic frameworks such as EDI and Access and Participation Plans. However as practitioners have uncertainty about how to include marginalised students within decolonising activities, using the audit findings could offer a roadmap to show how other HEIs have established effective working groups across a range of different stakeholders.

The popularity of resource curation as a decolonising sector activity, including toolkits, podcasts, and guides, highlights the importance of accessible, multimedia materials to support educators. As a STEM faculty we could build on this by developing a centralised repository of decolonising resources, subject specific, tailored to distance learning environments. Given the level of awareness reported by practitioners of reading lists, case studies and guides, this would suggest a logical starting point in terms of familarity and confidence to begin. Practitioners also asked for a guide to address both lack of understanding and time constraints. Since the project closure the team have been working on a Council of Professors and Heads of Computing (CPHC) special project grant initiative and created a repository of 24 diverse computing pioneers on OpenLearnCreate (Singh et al, 2025). This project is a valuable initiative that aligns with the OU's commitment to inclusive education and provides a tangible teaching resource, through a downloadable powerpoint slide deck per pioneer,

that is freely available and could be part of a toolkit of decolonising computing resources.

Finally, the project's dissemination strategy, which included national and international presentations and workshops, demonstrates the value of sharing practice widely. All colleagues are encouraged to engage in cross-institutional collaboration and contribute to sector-wide conversations to ensure decolonising efforts are sustained and impactful.

Dissemination

Deliverables

1. Tompkins, Z., Singh A. and Feliciello, K. (2025) *Decolonising computing activities within HEI 2024: What did we find* presentation, 10th April 2025, C&C School Seminar.
2. European Association of Distance Teaching Universities. (2024). Leading the Future of Learning. Proceedings of the Innovating Higher Education Conference 2024. https://doi.org/10.5281/zenodo.14220974.
3. Tompkins, Z. (2024) *STEM decolonisation in practice* presentation, 23rd to 25th October 2024, Innovating Higher Education Conference (I-HE2024), Limassol, Cyprus.
4. Equity in Attainment and Student Success RAISE presentation, 11th and 12th September 2024, University of Leicester. Available at: https://www.raise-network.com/post/raise-2024-conference (Accessed: 21st August 2025).
5. Tompkins, Z. and Singh A. (2024) *STEM decolonisation in practice: Student and staff collaboration* workshop, UKICER Conference, 5th and 6th September 2024, University of Manchester.
6. Tompkins, Z., Singh A. and Feliciello, K. (2024) *STEM decolonisation in practice: Resource bank curation* workshop, 19th June, Birmingham City University as part of the BCU and De Montfort University Decolonising Lecture Series.
7. Tompkins, Z., Singh A. and Feliciello, K. (2024) *Decolonising Computing: Insights into mapping of UK activity within Higher Education* webinar, 25th March 2024, BCS e-Learning with BCS Women.

8. Tompkins, Z. and Feliciello, K. (2023) *Decolonising Computing within UK Higher Education* poster, International Education Conference (iCERI2023), 13-15th November 2023, Saville, Spain.
9. The UK and Ireland Computing Education Research (UKICER) Conference, 7th and 8th September 2023, Swansea University. Available at: https://www.ukicer.com/2023/index.html (Accessed: 21st August 2025)

Figures and tables

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Appendices

Tompkins_App A_List of audited HEIs

Tompkins_App B_ Data collection template

Tompkins_App C_Survey questions

Tompkins_App D_Case Study_Collaboration

Tompkins_App E_Case Study_Research and Scholarship

Tompkins_App F_Case Study_Resource Curation

Tompkins_App G_Case Study_Events

Tompkins_App H_Case Study_Awards

Tompkins_App I_Case Study_Curriculum Development


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