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Exploring student consensus about module-level ethnicity awarding gaps: a Delphi approach

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ABSTRACT

Attention paid to awarding gaps in higher education linked to ethnicity tends to focus on outcomes at the final award stage. Our project sought to scrutinise awarding gaps at module level where these gaps may emerge. Our aim was twofold: to identify the most important barriers to student success and determine strategies to reduce awarding gaps at module level, as perceived by students from various ethnic backgrounds and to investigate to what extent there is consensus amongst students of various ethnic backgrounds regarding these barriers and strategies. We employed a two-phase Delphi approach. The first phase involved data analytics to identify modules with awarding gaps in health and life sciences undergraduate degree programmes. The second phase employed a Delphi approach to collect student feedback on barriers to success and strategies to overcome them, focusing on culture, curriculum, and assessment. The study engaged 36 students in the first round and 53 in the second round. Our research confirmed the existence of awarding gaps at the module level. Students reached consensus on 55 out of 79 factors affecting their academic performance, with notable differences between White and racially minoritised student groups. This study suggests that, to close awarding gaps, both a module-level approach and a deep commitment to listening to our students is needed. Our study is the first to use a consensus-driven Delphi approach to identify key barriers and strategies at the module level, offering a framework for addressing awarding gaps and fostering inclusive, equitable education within and beyond the UK.

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Introduction

The issue of ethnic disparities in educational attainment has been a subject of growing concern and scholarly attention. Despite the resurgence of movements like #BlackLivesMatter and increasing public engagement with racial and ethnic inequalities, the academic focus on the experiences of minority ethnic students in higher education remains limited (Byrne et al. 2020). While research on

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ethnic inequalities has been conducted since the 1980s (Troyna 1987), the pool of research has stagnated, especially in post-compulsory education. Most studies have focused on social class and gender inequalities, often overlooking the unique challenges faced by students from various ethnic backgrounds (Leathwood and Read 2008; Reay, David, and Ball 2005; Wong 2018; Wong and Chiu 2019). Attention in the UK has largely focused on a 'widening participation' (WP) agenda geared towards more equitable university admissions. This policy has aimed to increase access to higher education for underrepresented groups. Despite these efforts, the effectiveness of WP policies has been mixed. While there have been improvements in access, the persistence of the degree-awarding gap suggests that more work is needed to achieve truly equitable outcomes. Studies have shown that, although more students from diverse backgrounds are entering higher education, they still face significant barriers that affect their progression and attainment (Advance HE 2020; Office for Students 2018). For example, Advance HE reported in 2020 that 81.4% of White students graduated with a first- or upper second-class degree, compared to 58% of Black African graduates (Advance HE 2020). Its latest report revealed a slight increase, 83.0% for White students and 62.7% for Black African students, with the gap therefore reducing by 3.1% (Advance 2023). These data suggest that the awarding gap issue in degree outcomes between white British and minority ethnic students persists. This gap remains even when accounting for prior academic attainment, such as A-level grades or UCAS entry points. Despite institutional pledges and the growing number of universities committed to Advance HE's Race Equality Charter, awarding gaps persist (Universities UK 2022), falling short of sector-wide key performance measures set by the Office for Students (2018).

While other factors, such as gender and socioeconomic status, can also shape academic outcomes, minority ethnic students seem to undergo systemic inequalities that transcend other social identities. Intersectionality theory (Collins and Bilge 2020; Crenshaw 1991) recognises that identities are multi-faceted and that oppression and inequality can emerge from the interaction of social hierarchies related to class, gender, age, disability, sexuality, and other personal characteristics. In the context of awarding gaps, ethnicity may be foregrounded in interactions between racially minoritised students and higher education institutions (HEIs), though there are also likely to be other contributory factors such as social class and economic deprivation that affect a student's journey before, during, and after their participation in higher education. Cultural and social capital, which encompasses the values, skills, and knowledge that students bring from their home environments, plays a significant role in shaping educational trajectories (Rogošić and Baranović 2016). A systematic review of awarding gaps within institutions found that forms of social and cultural capital such as previous knowledge of higher education; social, family, and peer networks; previous school experiences; and familiarity with the norms of higher education all impacted attainment (Banerjee 2024). These factors often intersect with ethnic backgrounds, exacerbating the challenges faced by racially minoritised students (Mawdsley, Magola-Makina, and Willis 2024).

Within higher education, the notion of a racialised and gendered 'hidden curriculum', conceptualised by Giroux and Penna (1979, p. 22) as 'unstated norms, values, and beliefs transmitted to students', has been identified as a factor in reproducing social norms and tacit knowledge in university settings. Another study (Advance HE 2020; Rollock et al. 2014) also demonstrated that ethnicity seemed to outweigh class in strategies employed by Black middle-class parents to support their children's education. The convergence of ethnicity with other social factors, as outlined by intersectionality theory, underscores the complex roots of awarding gaps in higher education, necessitating a nuanced understanding of how racialised and gendered elements within the 'hidden curriculum' contribute to these disparities.

In addressing the ethnicity-awarding gap in higher education, it is important to consider the multifaceted influences of curriculum, culture, and assessment. A study by Taylor et al. (2021) highlights the importance of curriculum diversity. Their investigation into life sciences reading lists revealed a stark underrepresentation of authors from diverse backgrounds. The authors argue that a lack of diversity in curriculum materials not only reflects, but potentially perpetuates, the awarding gap. Decolonising the curriculum and incorporating a broader range of scholarly voices, particularly

those from ethnically diverse backgrounds, has the potential to create a more inclusive and representative educational environment, thereby addressing part of the awarding gap (Taylor et al. 2021). For instance, a number of English universities (e.g. Durham, Keele, University College London, Liverpool, Manchester, Reading, etc.) have developed toolkits and resources for decolonising the curriculum, aiming to challenge knowledge production in different disciplines, curricula, and pedagogic and cultural practices across university policy and practice (Hayes, Luckett, and Misiaszek 2021). Yet, the success of these changes remains to be seen, especially from the perspective of the degree-awarding gap.

The cultural context within HEIs also plays a role. Singh et al. (2023) explored the experiences of diverse ethnic communities in UK higher education. Their findings point to a culture of Whiteness that pervades various aspects of university life, from teaching and learning spaces to social interactions. This culture can lead to the minoritisation of ethnic communities, potentially contributing to the awarding gap. Moreover, the aspect of assessment is pivotal. A systematic review of inclusive assessment in higher education underscores the need for assessments that allow all students to succeed without the necessity for alternative or adapted measures (Bain 2023). The study suggests that assessments cannot be isolated but must be integrated within the wider course design, considering the diverse needs and backgrounds of students. Therefore, it is paramount to understand, in-depth, what challenges exist within the curriculum, assessments, and cultural context of HEIs in relation to the ethnicity-awarding gap

While there is a growing body of research on the ethnicity-awarding gap in UK higher education, the focus has often been on institutional and systemic factors, with less attention given to the perspectives of the students themselves. Ugiagbe-Green and Ernsting (2022) describe the ethnicity-awarding gap as a 'wicked' problem, highlighting its deep-rooted and multifaceted nature. Exceptions include the work of Bunce et al. (2021), who conducted three focus groups with 17 minority ethnic students in health and social care subjects, and reported that a lack of fulfilment in relation to relatedness, self-confidence, and sense of self-identity was a key barrier preventing them achieving their potential. A larger qualitative study conducted by Wong, ElMorally, and Copsey-Blake (2021), involving 69 in-depth interviews with White and racially minoritised students on their perceptions of the ethnicity degree awarding gap, identified a range of views from attributing the gap to individual aptitude to students recognising various social barriers. The study culminated in five student-suggested recommendations aimed at policy and practice, including providing economic support, tackling campus racism, increasing minority representation, diversifying the curriculum, and addressing structural barriers. However, it is still unknown to what extent there is consensus among students, across different ethnic backgrounds, regarding the most important barriers and strategies related to the awarding gap. In order to advance intervention design, research is needed to further understand student perceptions regarding how curriculum, culture, and assessment within HEIs may contribute to the ethnicity-awarding gap. This led to our research aim, which is twofold (Byrne et al. 2020): first, to identify the most important barriers and strategies to reduce awarding gaps, as perceived by students from various ethnic backgrounds and, second, to investigate to what extent there is consensus amongst students of various ethnic backgrounds regarding these barriers and strategies (Troyna 1987).

Methods

A two-round online Delphi approach was conducted to map out the factors deemed important by students regarding the ethnicity-related degree-awarding gap. Mindful of the international character of the target population (e.g. students possibly not on campus and responding from diverse geographical locations) and a focus on potentially disadvantaged students, our research design and method (online questionnaires) allowed easy participation with regard to date, time, geographic location, and anonymity. The Delphi technique was used as a research method to obtain concensus of opinion among students through a series of questionnaires, supplemented with controlled

feedback (Dalkey and Helmer 1963). The main goal of this method is to achieve consensus among a group of participants on a specific issue (Hsu and Sandford 2019). This approach is a widely used and accepted method for reaching consensus among participants within various topics (Cheung et al. 2017; Hsu and Sandford 2019; Vernon 2009). It offers several benefits (Byrne et al. 2020): the anonymity of responses, thus avoiding group dominance (Troyna 1987); its iterative nature, which allows participants to reconsider their opinions in subsequent rounds; and the process of controlled feedback showing the distribution of the group's responses (Leathwood and Read 2008). In addition, this method allows for the inclusion of a large number of participants (in this case, students) across various geographic locations (Hsu and Sandford 2019). Considering the power dynamics that exist between students and educators in university settings, participant anonymity was an important ethical consideration. Alongside group consensus, we also investigated perceptions and consensus within the subgroups: White and racially minoritised students. Ethical approval was obtained from the Ethics Committee of the College of Health, Medicine and Life Sciences of Brunel University London (35252-MHR-Mar/2022 - 38, 482–2).

Due to the exploratory nature of the case study, a single institute took part with a view to informing wider research in this field thereafter. Health and life science modules were selected due to an apparent awarding gap and significant representation of minority ethnic students. Four modules with awarding gaps were identified: Biosciences, Physiotherapy, Psychology, and Sport, Health and Exercise Sciences. A member of the professional services staff who was part of the working group generated data on grade distribution across Level 4 and 5 undergraduate modules within the College of Health, Medicine and Life Sciences (CHMLS) to identify potential awarding gaps. We chose four Level 5 (Year 2) modules, which had larger awarding gaps and larger cohorts, in order to increase the number of potential participants and ensure relevant insight into explanatory awarding-gap factors that were unaffected by variation in study level. The assessments for the modules included a critical analysis, a research report, an e-poster, and an oral viva. Modules were only included with the express consent of the module leads. The data for the modules selected are shown in Table 1.

All students who were registered on the selected modules were contacted by email and through their module's virtual learning environment to provide them with the study information and an

Table 1. Selected modules with larger awarding gaps.

Module	Ethnic group	n	Average first attempt grade	Numerical grade
Module 1	Arab	19	D	43–47
	Asian	111	C-	50–52
	Black	59	C	53–57
	Mixed	13	C+	58–59
	White	33	C+	58–59
	Other	8	C+	58–59
	No data	2	D	43–47
Module 2	Arab	1	E	33–37
	Asian	14	C+	58–59
	Black	5	D+	48–49
	Mixed	5	B-	60–62
	White	34	B	63–67
Module 3	Arab	11	B-	60–62
	Asian	53	C-	50–52
	Black	43	D+	48–49
	Mixed	13	C	53–57
	White	48	C+	58–59
	Other	6	C-	50–52
Module 4	Arab	3	C-	50–52
	Asian	32	D	43–47
	Black	45	D	43–47
	Mixed	21	D	43–47
	White	74	C-	50–52
	Other	5	D	43–47

invitation to take part. Students who expressed an interest in taking part were sent a link to the online survey to provide informed consent and then complete the study questionnaire. Survey completion time ranged between 10–27 minutes.

The questionnaire design was informed by previous studies that have successfully used the Delphi method to gather consensus on educational barriers and strategies (Çalışkan et al. 2022; Cheung et al. 2017; Hsu and Sandford 2019). The questions were crafted to capture detailed feedback on culture, curriculum, and assessment-related barriers, as well as potential strategies for improvement. In the first Delphi data collection round, we explored, via open-ended questions, the most important barriers in relation to student attainment across all ethnicities in the individual modules selected. Questions were focused specifically on culture (i.e. 'What were the most important culture-related barriers to successful student learning and attainment across all ethnicities?'), curriculum (i.e. 'What were the most important curriculum-related barriers to successful student learning and attainment across all ethnicities?'), and assessment-related barriers that affect student learning and attainment across all ethnicities (i.e. 'What were the most important assessment-related barriers to successful student learning and attainment across all ethnicities?'). Participants were then asked to suggest potential strategies to address any of the barriers identified (e.g. 'For each of the barriers you mentioned in the previous question, what strategies could there be to enhance successful student learning and attainment across all ethnicities?'). Two researchers examined the raw data, merging similar factors through discussion. If any uncertainties or discrepancies arose regarding a factor, the input of a third researcher was sought. After agreement, the resulting factors were incorporated into the questionnaire for the second round. The questions for this round were formulated using the participants' original wording, subject to minimal editing.

In the second Delphi round, all students from the modules evaluated in the first round were invited to complete a survey that comprised rating the importance of the barriers and strategies (i.e. unique factors) identified in the first round. The 53 students who provided complete responses to the survey were asked to rate the importance of each factor on a seven-point Likert scale, ranging from 1 (not at all important) to 7 (extremely important). The use of the median and interquartile range (IQR) to establish consensus is well-established in Delphi studies (Cheung et al. 2017; Jones and Hunter 1995; Mahajan, Linstone, and Turoff 1976). The median is less affected by outliers compared to the mean, making it a more robust measure of central tendency for this type of data. The IQR provides a measure of variability, indicating the level of agreement among participants. A median score (Mdn) of ≥ 6 was considered important (i.e. agreement with the factor being important) (Jones and Hunter 1995). An interquartile range with a value of ≤ 2 (agreement) and ≤ 1 (high consensus) was considered to indicate good consensus among the students (i.e. more than half of the opinions falling within one (IQR ≤ 1) or two (IQR ≤ 2) point(s) of the scale) (Mahajan, Linstone, and Turoff 1976). Data only from participants who fully completed each respective survey are presented.

Results

In round 1, 103 students expressed interest in taking part and were provided with a link to the survey. A total of 36 students fully completed the first-round survey (35% response rate): racially minoritised students ($n = 27$) and White students ($n = 9$). Ninety-six unique factors were identified and used to inform the second-round survey. These unique factors consisted of 11 culture-related barriers, 22 curriculum-related barriers, 15 assessment-related barriers, 11 barriers linked to identity and personal characteristics, 15 barriers that may impact all ethnicities, and 22 strategies that could enhance student learning and attainment across all ethnicities.

In round 2, a total of 75 students provided consent, with a total of 53 students fully completing the survey. This consisted of racially minoritised ($n = 36$) and White ($n = 17$) students. Factors

Table 2. Culture-related barriers (total, $n = 53$; RM, $n = 36$; White, $n = 17$).

Barriers	Mdn	IQR	Mdn White	IQR White	Mdn Racially minoritised	IQR Racially minoritised
Insensitivity and lack of representation for ethnic minorities within the classroom	5	2	5	2.25	5	2
Insensitivity for social class	5	2	5	2	5	2
Lack of acknowledgement and respect of different cultures within the classroom	5	2	5	2	5	2
Lack of inclusion and representation of different cultures within the classroom	5	2	5	2	5	2
Lack of accessibility to materials and tools such as quiet study areas, laptops and technology	6	2	6	2	6	2
Lack of realistic timelines and deadlines in relation to religious and cultural events	5	3	5	3	5.5	2.25
Lack of understanding module content due to English being a second language	5	3	5	3	5	3
Lack of understanding the barriers and other lifestyle factors due to cultural or ethnic differences	5	2	4	3	5.5	2
Lack of inclusion of different student ethnicity, identity, and cultural differences within the classroom	5	2	4	3	5	2

Blue shading: IQR = 2 and Mdn ≥ 6(agreement among students).

agreed upon by students (IQR = 2 and Mdn ≥ 6) are highlighted with blue shading in Tables 2–7; those with high agreement (IQR ≤ 1 and Mdn ≥ 6) are indicated with green shading.

For the culture-related barriers (see Table 2), there was one unique factor which elicited agreement among both the racially minoritised and White students, and among the sample as a whole: 'Lack of accessibility to materials and tools such as quiet study areas, laptops and technology'. There were no unique factors upon which students reached a high level of agreement.

For the curriculum-related barriers (see Table 3), two unique factors were identified upon which racially minoritised students reached agreement: 'Unclear instructions, outcomes and tasks', and 'Students struggling with understanding the clarity of module content'.

For the assessment-related barriers (see Table 4), students reached agreement on eight unique factors. For White students, the only factor upon which students reached reached agreement was 'Lecturers not understanding students who have varied work habits'. For racially minoritised students, these factors were 'Students not understanding questions and answers', 'Lectures not adapting to different students' needs and experiences', 'Lecturers are not consistent with their marking', 'Lack of ability to succeed in assessments due to timing of assessments', 'Support given to students to prepare for exams', 'Students having limited opportunity to practise and reinforce understanding of module content', and 'Lack of feedback from lecturers'. From the whole sample, consensus was reached with regards to 'Support given to students to prepare for exams' as a barrier.

For the identity and personal characteristic-related barriers (see Table 5), students reached agreement on two unique factors. Within the racially minoritised group, this included 'Lack of ability for students to succeed in assessments due to barriers such as mental health, test and performance anxiety, learning styles, and cultural differences', and 'Lack of awareness of how comfortable students feel when doing group work', which reached high agreement.

For the barriers that impact all ethnicities (see Table 6), there were four unique factors upon which students reached agreement. 'Lack of feedback from lecturers to help students improve' reached agreement from the racially minoritised, White and whole sample of students as being a barrier that

Table 3. Curriculum-related barriers (total, $n = 53$; RM, $n = 36$; white, $n = 17$).

Barriers	Mdn	IQR	Mdn White	IQR White	Mdn Racially minoritised	IQR Racially minoritised
Insensitivity for students with diverse backgrounds within teaching	5	2	5	2	5	2
Insensitivity and lack of representation for ethnic minorities in the curriculum	5	2	5	2	5	2
Lack of engagement and motivation within the classroom due to content being repeated	5	2	5	2.5	5	2
Students lacking understanding of teaching cultures and methods used across different countries and classrooms	5	2	4	3	5	2
Lack of acknowledgment and respect of different cultures in taught content	5	2	5	3	5	2
Lack of inclusion of different cultures and ethnicities within the classroom	5	2	5	3	5	2
Lack of support and feedback from lecturers within the classroom	5	2.25	5	3.5	5	2
Lack of relationships between lecturers and students	5	2	4	2.5	5	2
Unclear instructions, outcomes and tasks	6	3	6	4	6	2
Students having a lack of proficiency with the English Language	5	3	5	3	5	3
Too much additional work outside of taught content (e.g. additional readings)	5	2	4	2.5	5	2
Curriculum not taking into account gender differences	4	3	4	3.5	4	3
Lack of realistic timelines and deadlines	5.5	3	6	4	5	2
Students finding it difficult to understand lectures and instructions	5	3	5	3.5	5	2
Students struggling with understanding the clarity of module content	5.5	3	4	3.5	6	2
Lack of attendance within the classroom	5	2.25	5	2.5	5	2
Lack of in-depth information being provided within the course module and taught content	5	3	4	4.5	5	2
Students finding it difficult to understand complex scientific language	5	2	5	2	5	1

Blue shading: IQR = 2 and Mdn ≥ 6(agreement among students).

impacts all ethnicities. All students reached agreement on one unique factor: 'Lack of feedback from lecturers to help students improve'.

Within strategies to overcome barriers (see Table 7), 11 unique factors were identified upon which students reached agreement. Within the racially minoritised group, students reached agreement on the following strategies: 'Provide accessible materials, online tools, and facilities (e.g. quiet study rooms) for all students', 'Lecturers providing support for all students within the classroom', 'Lecturers accepting different opinions, questions, and suggestions from students', and 'Sharing helpful resources to support learning'. Racially minoritised students reached a high level of agreement on the strategy: 'Giving opportunities to apply content and skills learnt in the classroom to real-life settings'.

Within the White group, students reached agreement on 11 strategies to overcome barriers: 'Organising social events, networking and icebreakers to form community bonds', 'Provide accessible materials, online tools, and facilities (e.g. quiet study rooms) for all students', 'Lecturers providing support for all students within the classroom', 'Developing

Table 4. Assessment-related barriers (total, $n = 53$; RM, $n = 36$; White, $n = 17$).

Barriers	Mdn	IQR	Mdn White	IQR White	Mdn Racially minoritised	IQR Racially minoritised
Lack of realistic timelines and deadlines	5.5	3	5	3	6	3
Lack of accessibility to facilities, such as quiet study rooms	5	3	6	2.5	5	3
Lack of accessibility to online tools	5	3	5	3	5	3
Lack of relevant assessment tasks related to the individual student	5	2	6	2.5	5	2
Students lacking understanding and clarity of lecture content and deadlines	6	3	6	3.5	6	3
Lecturers not understanding students who have varied work habits	6	3	6	1.5	5	3
Students having a lack of proficiency with the English Language	6	3	5	3.5	6	3
Students not understand questions and answers	6	3	6	3	6	2
Students lacking understanding of teaching cultures and methods across different countries and classrooms	5	2	5	4	5	2
Lectures not adapting to different student needs and experiences	5	2	5	1	6	2
Students not being assessed on certain criteria, which may not reflect their wider knowledge and skills	5	2.25	5	2.5	5	2
Lecturers are not consistent with their marking	6	3	5	3	6	2
Lack of ability for students to succeed in assessments due to timing of assessments	5	2.25	5	2	6	2
Lack of ability for students to succeed in assessments due to lack of clarity and difficulty of assessment questions	5	3	4	3.5	6	3
Support given to students to prepare for exams	6	2	6	3	6	2
Students having limited opportunity to practice and reinforce understanding of module content	6	3	4	3	6	2
Lack of feedback from lecturers	6	2.25	5	2.5	6	2

Blue shading: IQR = 2 and Mdn ≥ 6 (agreement among students).

relationships between students and lecturers within the classroom', 'Lecturers accepting different opinions, questions, and suggestions from students', 'Provide opportunities for students to succeed in assessments by lecturers meeting with students to give them support', 'Sharing thoughts and insights from students and lecturers of similar backgrounds', 'Giving opportunities to apply content and skills learnt in the classroom to real life settings', 'Sharing helpful resources to support learning', 'Lecturers providing clear feedback to students on assessments', and 'Holding sessions at the end of the module for students to provide feedback to lecturers'.

The whole sample reached agreement on eight strategies to overcome barriers: 'Provide accessible materials, online tools, and facilities (e.g. quiet study rooms) for all students', 'Lecturers providing support for all students within the classroom', 'Developing relationships between students and lecturers within the classroom', 'Lecturers accepting different opinions, questions, and suggestions from students', 'Provide opportunities for students to succeed in assessments by lecturers meeting with students to give them support', 'Giving opportunities to apply content and skills learnt in the classroom to real-life settings', 'Sharing helpful resources to support learning', and 'Lecturers providing clear feedback to students on assessments'.

Table 5. Identity and personal characteristic-related barriers (total, $n = 53$; RM, $n = 36$; White, $n = 17$).

Barriers	Mdn	IQR	Mdn White	IQR White	Mdn Racially minoritised	IQR Racially minoritised
Lack of representation of ethnic minorities, personal characteristics, identity and beliefs within the classroom	5	3	4	4.75	5	2
Lack of realistic deadlines and timelines for all students to personally achieve	5	3	5	3	5	3
Lecturers not understanding the experiences of students with different cultures and personal differences	5	2	4	3.25	5	2
Lack of representation from students at different course levels or who have graduated	4	2	4	2	5	3
Lack of proficiency with English language and writing due to it being a second language	5	3	4	4.75	5	2
Students lack understanding of different cultures and methods used across different countries and classrooms	5	2.5	4	3	5	
Lack of ability for students to succeed in assessments due to barriers such as mental health, test and performance anxiety, learning styles, and cultural differences	6	2.5	7	2.75	6	2
Lack of adaptation of module to student understanding and learning	5	2	5	2.75	5	2
Lack of awareness of how comfortable students feel when doing group work	6	2	5.5	3	6	1

Blue shading: IQR = 2 and Mdn ≥ 6 (agreement among students).
Green shading: IQR ≤ 1 and Mdn ≥ 6 (high agreement among students).

Table 6. Barriers that impact all ethnicities (total, $n = 53$; RM, $n = 36$; White, $n = 17$).

Barriers	Mdn	IQR	Mdn White	IQR White	Mdn Racially minoritised	IQR Racially minoritised
Lack of icebreakers and forming bonds within the classroom and community	5	2.5	5	2.75	5	2
Lack of feedback from lecturers to help students improve	6	2	6	2	6	2
Lack of communication and support from lecturers	6	2.5	6	2.75	6	2
Lack of realistic timelines and deadlines	6	3	6	3.75	6	2
Lack of engaging teaching and slides	6	3	5	3	6	2
Assessments not being sensitive to students with different cultures, genders, or identities	5	2	5.5	3.5	5	2
Lack of inclusion for students of different learning styles	6	3	6	3	6	3

Blue shading: IQR = 2 and Mdn ≥ 6 (agreement among students).

Discussion

This study aimed to identify the most important barriers to student success and strategies to reduce awarding gaps, as perceived by students from various ethnic backgrounds (Byrne et al. 2020) and to investigate to what extent there is consensus amongst students of various ethnic backgrounds regarding these barriers and strategies (Troyna 1987). The findings of this study enhance understanding of awarding gaps at the module level. It was found that students reached consensus on 55

Table 7. Strategies to overcome barriers (total, $n = 53$; RM, $n = 36$; White, $n = 17$).

Strategies	Mdn	IQR	Mdn White	IQR White	Mdn Racially minoritised	IQR Racially minoritised
Organising social events, networking and icebreakers to form community bonds	5	3	6	2	5	2.25
Providing physical demonstrations within the classroom to support learning	6	3	5	3	6	3
Content being inclusive of ethnic minorities and different cultures	5	2	5	2	5	2
Representation of ethnic minorities and different cultures within the classroom	5	2	4	2	5	2
Provide accessible materials, online tools, and facilities (e.g. quiet study rooms) for all students)	6	2	7	2	6	2
Lecturers providing support for all students within the classroom	6	2	7	2	6	2
Developing relationships between students and lecturers within the classroom	6	2	6	2	5	2
Students developing their proficiency with English language and writing	5.5	1	5	2	5.5	1
Lecturers accepting different opinions, questions, and suggestions from students	6	2	6	2	6	2
Connecting students from similar backgrounds within the classroom	5	2	5	1	5	2
Provide opportunities for students to succeed in assessments by lecturers meeting with students to give them support	6	2	7	2	5	2
Sharing thoughts and insights from students and lecturers of similar backgrounds	5.5	2	6	2	5	2
Giving opportunities to apply content and skills learnt in the classroom to real life settings	6	2	7	2	6	1
Sharing helpful resources to support learning	6.5	2	7	2	6	2
Lecturers providing clear feedback to students on assessments	7	2	7	2	6.5	1.25
Lecturers being more mindful of examples/pictures used in slides	5.5	3	5	2	5.5	3
Holding sessions at the end of the module for students to provide feedback to lecturers	6	3	6	2	5.5	3
Creating flexibility in group work by switching groups and allowing more conversations between different students	6	3	5	3	6	3
Diversity in module content to explore examples from different countries	6	3	5	3	6	3

Blue shading: IQR = 2 and Mdn = 6 and higher (agreement among students).
Green shading: IQR ≤ 1and Mdn ≥ 6 (high agreement among students).

out of 79 factors that could affect student learning across ethnicities. There were notable differences between racially minoritised and White students with regards to challenges relating to curriculum and assessment. This aligns with existing literature that has highlighted the persistence of ethnic disparities in educational attainment, such as the work by Advance HE (2020, 2023) and the Office for Students (2018).

Cultural barriers

Racially minoritised students in this study agreed that potential reasons for the awarding gap included module requirements and instructions being unclear and difficult to understand. Moreover, racially minoritised students agreed that it is difficult to understand questions and answers from the lecturers and that the teaching was not tailored to their needs. This resonates

with the concept of a racialised and gendered 'hidden curriculum', as described by Giroux and Penna (1979), which suggests that unstated norms, values, and beliefs can significantly impact student experiences and outcomes. This is an area that warrants further investigation, in particular to understand how these cultural barriers manifest in different educational settings. One explanation for the discrepancies between White and racially minoritised students is the potential culture of Whiteness in various aspects of teaching and learning spaces (Banerjee 2024; Singh et al. 2023). Dissonance between the experiences of racially minoritised students and White students may be revealed.

Curriculum-related barriers

In terms of curriculum-related barriers, the study found that racially minoritised students were particularly affected by issues such as unclear instructions and difficulties in understanding module content. This is consistent with previous research by Wong et al. (2021), which also highlighted the need for clarity and better communication on the part of educators. However, what adds nuance to our findings is the extent to which these curriculum-related barriers are perceived differently by White and racially minoritised students (i.e. racially minoritised students felt that instructions were unclear, and struggle with understanding the clarity of module content), suggesting that a one-size-fits-all approach to curriculum design may not be effective in addressing these disparities. As such, there is an urgent need for HEIs to adopt more inclusive curriculum design practices that consider the diverse needs of all students, including decolonising the curriculum and incorporating diverse scholarly voices (Hayes, Luckett, and Misiaszek 2021; Taylor et al. 2021).

Assessment-related barriers

Our study's findings on assessment-related barriers align with Bain's (2023) research on inclusive assessment in higher education. Bain highlights the degree-awarding gap, particularly between White students and racially minoritised groups, emphasising the crucial role of assessment design in resulting educational disparities. This finding mirrors our results, whereby racially minoritised students faced challenges like inconsistent marking and insufficient feedback, indicative of systemic issues in assessment processes. Bain's review suggests that inclusive assessments should allow all students to excel without the needi for alternative formats (Bain 2023), resonating with our findings on the need for adaptability in assessments to meet diverse student needs. This calls for educational institutions to explore integrating inclusive assessment practices within their broader course design. To address these disparities, HEIs should integrate inclusive assessment practices that are adaptable to the diverse needs of students (Nieminen 2024).

Implications for practice

In terms of future research, a more in-depth qualitative approach could provide richer data on the specific experiences and perceptions of students from different ethnic backgrounds, which could be valuable for designing more targeted interventions. For HEIs, the findings suggest the need for a comprehensive, multi-pronged approach to tackling awarding gaps. This could include revising curricula to make them more inclusive, providing additional support mechanisms, and ensuring that assessment methods are fair and transparent. For example, assessments that are flexible, offer multiple ways of demonstrating knowledge and are transparent in their criteria can be more inclusive (Nieminen 2024). Educators could also incorporate peer learning and the use of exemplars as part of the assessment process to support students, which can help to reduce potential barriers (Bain 2023; Carless 2015).

Given the high level of consensus among students regarding several strategies for addressing ethnicity-related barriers to learning and attainment, such as providing accessible materials and clear

feedback, these should be prioritised in any action plans. When co-creating strategies to target the awarding gap, one can be guided by resources or toolkits, such as those provided by University College London (2020), which stipulate approaches to encompass inclusive teaching practices, foster belonging, and create safe spaces for racially minoritised students. UCL's toolkit, which provides practical tips and emphasises incorporating racially minoritised student voices, aligns with our study's recommendations regarding accessible materials and clear feedback.

Limitations

One potential limitation is the absence of formal inter-rater reliability calculations. Using the Delphi method's iterative process, coupled with the use of median and IQR, to filter and refine the factors deemed important by participants, future research could incorporate inter-rater reliability to reveal insights into the reliability of the qualitative analysis in round 1. The sample size was diverse, but was relatively small and limited to health and life sciences disciplines. This raises questions about the generalisability of the findings. Additionally, the study relied on self-reported data, which might be subject to various biases, including social desirability and recall bias. Another limitation is the limited depth of the unique barriers and strategies outlined by the participants. Despite a module-level analysis, the factors were relatively generic in nature and future qualitative studies are needed to better understand the nuances related to these. Moreover, the perceptions are limited to a student population, whereas the views of university staff (e.g. lecturers, administrative support) are important too in understanding factors contributing to the awarding gap. Their views are important to inform co-creation of strategies that may be implemented. Furthermore, the secondary analyses comparing White and racially minoritised subgroups is limited by grouping diverse ethnic backgrounds in one group. Great heterogeneity may exist within that group and future studies need to shed light on perceptions and consensus evident in specific diverse populations.

Conclusion

This study makes a significant contribution to the existing body of literature on ethnic disparities in higher education. By focusing on the module level, it provides a more precise understanding of the issues that serve as barriers to performance in individual assessments, which then aggregate to cause awarding gaps at the course level. By doing so, it offers actionable insights into the barriers and strategies as perceived by students from diverse ethnic backgrounds, rather than offering more generic advice for educators to implement at the course or university level. The high level of consensus among students on several factors indicates a pressing need for higher education institutions to address these issues in a comprehensive manner. While module-level analysis and action may be demanding, anything less precise is likely to fall short in addressing these gaps. By focusing on this, we can move closer to creating an educational environment that is not only equitable but also inclusive for all students, thereby fostering more equitable educational outcomes. Our study is the first to use a consensus-eliciting approach to identify key barriers and strategies at the module level, illustrating the application of the Delphi technique for tackling awarding gaps. This study can serve as a vantage point for other universities, both within and outside the UK, providing a framework for addressing disparities and fostering more inclusive, equitable educational environments.

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Availability of data and materials

The excel sheets of the survey are available upon request from the first author (keilong.cheung@brunel.ac.uk).

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