eSTEeM project FINAL REPORT

Understanding the Black, Asian and Minority Ethnic awarding gap at The Open University by means of quantitative and qualitative data analytics

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Executive Summary

In this mixed-methods study, we used a set of predictive algorithms (called OUAnalyse) that we've developed at The Open University to understand more about how students learn. We analysed this data to see which patterns might be specific to different groups of students (including ethnicity, gender and combinations of these protected attributes). Specifically, we were interested in the following:

- Patterns of different ethnicities passing through the module milestones at different levels.
- Patterns of when Black, Asian and Minority Ethnic students withdraw as opposed to White students, as well as their reported reasons.
- Important factors correlated with succeeding/failing different module milestones (e.g., Fee Liability Point (FLP) 1, completion, good grades)
- The fairness of the current OUAnalyse methods regarding both false positives and negatives for different ethnicities.
- The impact of OUAnalyse in 3 modules last year for Black, Asian and Minority Ethnic /non-Black, Asian and Minority Ethnic students and students from different deprived areas.

Key findings were:
- There is a significant increase in the awarding gap, for Black students in particular, after completion, both the passing gap (Completion->Pass) and the good grade gap (Pass->Good Grade).
- This gap can only partially be explained by socioeconomic status measured by IMD (Index of Multiple Deprivation)
- OUAnalyse provided a benefit of decreasing the gaps, especially for lower IMD students, in three 19J modules at STEM [Hlosta et al., 2021]
- Overall, the analysis suggests that the resulting gaps are associated with many partial and accumulating gaps rather than by the existence of one single factor

We then presented the patterns we observed to 6 Black students, as well as 6 educators from diverse backgrounds. In a series of focus groups, we asked them how we should interpret the patterns we observed. In addition, we asked them what data we might be missing, and how we can use this data to help improve the degree awarding gap at The Open University.

Key findings from students and educators were as follows:
- The University does not prepare enough for different cultural experiences and values lead to different expectations of the University experience
- Family responsibilities and expectations may be more significant for students from different cultural backgrounds, or who start their University journey later, increasing financial burden and limiting time. During COVID19, students who were furloughed may have had more time and attention for their studies. The decrease in the awarding gap during this time may support this as a factor. More research is needed to understand the familial and financial responsibilities of students.
- Immigration experiences (first generation, as well as immigration background in the family) impact many aspects of the educational experience, including cultural capital brought to the learning experience and family responsibilities, as well as hostility from citizens of the host country in some cases
- Black students and educators of diverse backgrounds experience Racism, which is an added trauma that is typically not addressed by the University and which exacerbates all of the above
- Black students and educators of diverse backgrounds note that relationships with the University are shaped by all of the above factors impacting students' likelihood to seek (or expect) help when needed
- Some Black students and educators worry that The Open University degree, particularly if it is not a highly marked degree, may not be as advantageous for Black students. For studying the long-term effects of the awarding gap, an analysis of alumni might be fruitful.

1 Aims and scope of your project

At the moment, when learning analytics are applied to learn student patterns and identify students at risk, data is not disaggregated by groups. Divergences in the learning and behavioural patterns of minority groups (such as students formerly designated as "Black, Asian and Minority Ethnic") may hence not be given the same relevance as the ones of the majority group. The problem of shaping analytics approaches according to characteristics of dominant groups has been highlighted by scholars in other fields. For example, Criado-Perez [Perez, 2019] shows how women are 50% more likely to die of a heart attack. Symptoms for women are different than the ones for men, but more men suffer heart attacks. Because the symptoms of the majority group (in this case men) have been considered to design medical guidelines, women are more likely to be misdiagnosed and die during a heart attack. A similar issue may be happening in HE, and more particularly at The Open University. Since White students form the majority group at The Open University [Herodotou et al, 2019a] we may not be considering the needs of students from minority backgrounds when designing our educational practices and interventions, hence contributing to existing inequalities. Previous work at The OU [Herodotou et al, 2017] on traces of 150,000 students confirms the existence of an attainment gap for Black, Asian and other minority ethnic students, who are 19%-79% less likely to achieve excellent grades. More importantly, these students spent 4-12% more of study time to achieve the same academic performance as White students.

This project aims to understand pattern divergences between students of different ethnicities by conducting large-scale data analytics and using the findings of these analyses to drive focus groups with students and members of staff. During the project run, the scope was narrowed for
- Black students
- STEM modules
- 2017B -> 2020D presentations

2 Activities

2.1 Overall approach

The main goal of the project was to understand pattern divergences between students of different ethnicities by conducting large-scale data analytics and use these findings to drive focus groups with students and members of staff. The first quantitative part had two sub-activities:
1) Understanding the patterns of divergences for students designated as Black, Asian and Minority Ethnic and other students, to understand where the gap happens and what are the other factors contributing to the gap.
2) Understanding the role of OUAnalyse as an already deployed system at The OU on the awarding gaps. This was achieved by two independent studies
    a) analysing the fairness of the underlying predictive model and
    b) evaluating the impact of a pilot run in 19J on 3 STEM modules

The results of these activities then resulted in several patterns that were shown to students and members of staff in the organised focus groups (see section 3.4).

2.2 Changes to the plan

We did not plan to conduct the analysis of impact of using OUAnalyse in the three STEM modules in 19J at the beginning. However, the availability of having just finished this pilot gave us a unique opportunity to analyse the impact not only overall but also across different demographic groups. We have not seen any kind of a similar evaluation at The Open University, and we wanted to inform the currently developing practice of hiring Personal Learning Advisors (PLA) as a way to address the existing awarding gaps.

Our initial focus on students designated as Black, Asian and Minority Ethnic was later narrowed to Black students. This was motivated by a conversation with the consultants from eSTEeM. There were several

reasons for that, mostly that the gap of Black students is the highest across ethnic minorities, which we also observed in our data.

We also organised some of the sessions for the qualitative analysis as interviews opposed to planned focus groups. This was due to some students expressing that they prefer the interview to discussing these issues in a larger group, as well as difficulties in scheduling. We would not be able to get these student input otherwise, so we accommodate their needs. For the qualitative analysis, we also limited our current focus of all STEM modules to only selected modules. Again, this was recommended by STEM due to the need of contacting each module for a permission to send student invitations and limits of the number of contacts allowed for one student at STEM.

2.3 Gathered evidence

For the quantitative part of our study, the evidence was collected was as follows:
- a large-scale evaluation using exploratory data analysis and logistic regression
- fairness evaluation for accuracy and different error types across different protected attributes
- Quasi-experimental design (QED) study impact evaluation of using OUAnalyse in 3 STEM modules by logistic and linear regression

For the qualitative analysis, the evidence was collected was as follows:
- interview and focus group transcript data
- inductive analysis of the transcripts to identify emerging themes
- deductive thematic analysis of the transcripts to identify these themes comparatively across interviews and focus groups, and individual participant statements (Unit of Analysis being the statement level)

3 Findings

3.1 Quantitative Analysis - Gaps analysis

The main driving force for the analysis is the high gap between Black and White students in level 2,3 modules. In general, the gaps for Black students are higher and more visible for STEM than for other faculties (gap 34% for STEM vs 31% for whole OU). The analysis suggests existence of two points in the module duration when the gaps are accentuated (1) at the start of the module and (2) between the completion - passing (i.e. at the time of the exam). However, as we show below, the good grade gap in level 2,3 modules might be a result of slow propagation of the gaps that start at the start of level 1 modules. It is important to analyse Level 1 and Level 2&3 separately.
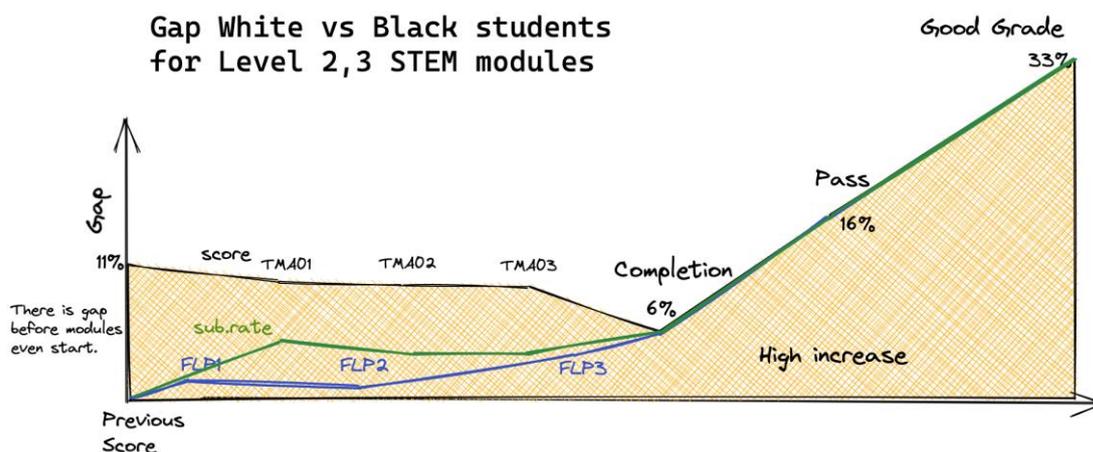
3.1.1 Level 2 and 3 modules

Figure 1 - Awarding Gap for Level 2 and 3 modules

- **Starting position** - Before the modules start, Black students already have significantly lower average previous scores than White students from their previous study at The Open University. This suggests that they might come to the Level 2&3 modules already at a disadvantage to White students.
- **A gap during module run -** the gap in the first TMA scores follows the initial gap in the previous average score. Between TMA01 -> TMA03, the gap in scores remains almost the same. However, in STEM, the gap is slowly extending. Similarly, the initial gap in the percentage of withdrawn students increases from 2% at FLP1 to 4% at FLP3 and 6% at the time of completion.
- **Final results -** there is a significant increase of the gap after completion, both the passing gap (Completion->Pass) and the good grade gap (Pass->Good Grade). Focusing on the Overall Continuing Assessment Score (OCAS) instead of the Completion rate helps understand this increase. Comparing completion rates with OCAS (or some previous TMAs), this increase is much lower. This suggests that the passing gap can be expected before the exam takes place. However, the large increase in the good grade gap cannot be explained by this and remains high. We offer two explanations:
    - a) some exam-related factors contribute to promoting these gaps (e.g. stress while taking the exam, time of the exam),
    - b) the exams highlight and accentuate the existing gaps accumulated during the module run and the previous studies.
- **COVID19 -** since the 2019J presentation onwards, the passing gap decreased significantly (19% in 17J&18J -> 8% in 19J). This might be attributed to the change of examination due to the COVID-19 lockdown, or the change in students' work-life patterns, but more research is needed to validate this assumption. For example, at the same time, the completion gap decreased as well (7% -> 2%), but the good grade gap remained high. So, while more students were able to pass, their good grade gap did not improve. To our knowledge, DSA is exploring looking at the impact of changes in the exam strategies. In our qualitative results, we briefly discuss the impact of COVID19 on students' work-life balance.
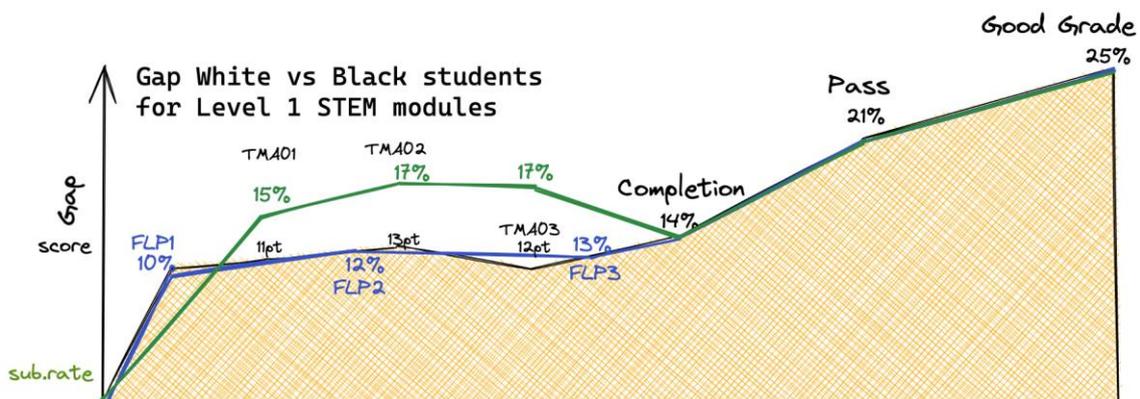
3.1.2 Level 1 Modules

Figure 2 - Awarding Gap for Level 1 modules

- **Before start -** Black students are more represented in socio-demographic categories more associated with withdrawing at FLP and not passing the module:
    - More Black students are repeating the module.
    - There are more Black students from poorer neighbourhoods (lower IMD quintiles).

- **Module start** - In Level 1 modules, the problem in withdrawing is imminent from the start - Black students have much more withdrawals before the **1st FLP in Level 1 modules** (Mixed students follow a similar path in Level 1 modules). Thanks to the reasons for withdrawal reported by students (Section 5), this might be attributed to the financial situation of students. The intersectional analysis with IMD identified a significant difference in FLP1 withdrawal between the most deprived areas of Black students and the 4th IMD quintile. Previous education seems not that important, with the exception - Postgraduate Black students have higher retention at FLP1 than other Black students.
- **First TMA -** the gap in TMA submission and TMA scores **starts with the first TMA**, **even** if we exclude students withdrawn at FLP1. At the STEM faculty, the difference of average scores between Black and White students is 11 points. This gap prevails even after accounting factors like previous education or IMD. Moreover, the gap has not improved after the COVID-10 lockdown, i.e., since the 2019J presentation.
- **During module run** - after FLP1, the gap in withdrawal and TMA submission remains constant in The Open University average (around 10%). Similarly, as for Level 2&3 modules, it slightly increases at STEM (10% gap at FLP1->13% at FLP3). Gaps in TMA scores also slightly increase, which increases the gap in the OCAS before students sit their exams. (11 points at TMA01 -> 18 points at OCAS). This means that, instead of catching up during the module, Black students do not improve. On the contrary, the gap even extends.
- **Final results -** the passing gap and the good grade gaps are not so far from each other as in the 2&3 level modules (21%->25% for Level 1 vs 16%->33% for Level 2&3). We explain that these gaps are a result of an accumulated gap in OCAS. Therefore, Black students already have much lower chances of passing before the exam takes place and exams are most likely not responsible for the high gaps. The gaps remained similar also after the COVID-19 lockdown.

The results confirm that there is a gap between Black and White students in both Level 1 and Level 2&3 modules, even after adjusting for the known covariates and the studied module.

- **Level 1** - The gaps in FLP1 registration were present primarily in Level 1 new students. A significant part of the gap in good grades can be decreased after accounting for OCAS, especially in Level 1 modules. This confirms that the gaps start already in the first TMA, especially for new students (17% gap in TMA 1 -> 22% for good grades).
  - Some modules were identified with positive differences in performance even after controlling the other covariates - these are MU123, T194 and M124, which can be in the future analysis contrasted with modules such as TM129.
- **Level 2&3** - Interestingly, the good grade gap does not decrease after accounting for OCAS as much as for Level 1 modules, which might mean that some effort should also be spent on investigating what happens during the exams, with a higher focus on Level2&3 modules than Level 1 modules.
  - Similarly, as for Level 1, modules with a positive effect on Black students (T207) or equal performance (TM352) should be compared with the ones that have higher gaps for Black students (TM254, TM353 and T213).

3.2 OUAnalyse impact on different protected attributes

As part of this project, we also evaluated the impact of using predictive learning analytics to support students in 3 STEM modules (U101, S294 and S209). Tutors were asked to intervene with students flagged as at-risk of not submitting their TMAs or scoring low in the TMAs. They were asked to act before the first three TMAs (TMA 1,2 and 3). The usage of the tool after TMA3 was left upon tutors' will.

The results of the projects showed that students of teachers using OUAnalyse were 7% more likely to pass the module and also higher overall scores. We were not able to run the Randomised Control Trials, however, we controlled for the known factors that could partially affect the selection of tutors in the pilot, such as their experience and their average previous student pass rates. We interpret the positive results as giving students more chances to be flagged for support when they are in need of it.

In particular, their results revealed that statistically significant higher impact was measured for students from the more deprived areas, i.e. lower IMD. The higher impact was also measured for Black, Asian and Minority Ethnic students, however without statistical significance. We think that this is due to the low percentage of Black, Asian and Minority Ethnic students in the pilot. For this reason, we could not measure the effect for Black students separately, nor to convey the intersectional analysis of low IMD with minor ethnicities.

In the pilot, we focused on the first TMAs. The analysis of the milestones was performed to show whether there is the best time for when the interventions should be actioned, in order to have the highest impact on the gaps. From the results, it seems that there is no single best point but support previous research [Kuzilek et al, 2015] that the support should start as early as with the first TMA. The difference in the current version of OUAnalyse is that the support that is offered might be also focused on students expected to have lower TMA grades than only students expected not to submit. This feature is present in the current OUAnalyse but it is disabled in some faculties. This is because it can possibly open the usual discussion around the Pygmalion effect, i.e., whether the low predicted grades might not affect the tutors in grading the assignments.

3.3 OUAnalyse Predictions Fairness Analysis

Apart from the evaluation of the deployed pilot in three STEM modules, we wanted to investigate to what extent the current OUAnalyse model treats different ethnicities fairly. In some domains, such as in criminal justice systems, it has been shown that bias from data can be learnt in the model. In this case, it resulted in treating Black people much more likely to be arrested or stopped for control than White people[1]. This might have happened because of previous bias and possibly racist practices. The algorithms then just learn to automate these biases on a larger scale.

In education, these biases are not so harmful, but it has been shown that some minority students can be less likely to be admitted to school, if such an algorithm was deployed in production. In case of OUAnalyse, the algorithm is on the other hand selecting students to be selected for contact and prospective support. In our case, we investigated whether the minority ethnic students were more or less likely to be predicted as at risk of not submitting the TMA. Moreover, we wanted to estimate whether some modifications, such as removing the ethnicity from the model, can benefit or harm the minority students.

The results show that Black students are more likely to be predicted as at risk of not submitting the TMA than other ethnicities. On the other hand, Asian students were much more likely to be predicted as Submit despite they did not submit. The second error is much more harmful than the first one, as students might be denied help. We can explain the error on Black students by the model's learnt bias that Black students were more likely to fail in the past, than they are in present. Or that tutors might have intervened with those students causing the predictions to be faulty. However, it was more difficult to interpret the opposite error for Asian students. This error was very similar to the one of White students. These patterns were both fed in the subsequent qualitative research.

Removing the ethnicity from the model did not harm the accuracy significantly. On the other hand, it improved the fairness of the Asisan students and increased their chances to be flagged when they might need it. As a result, we removed the ethnicity from The Open UniversityAnalyse model. Thanks to the evaluation, we were confident that the model will not significantly degrade in the overall performance,

[1] https://www.technologyreview.com/2020/07/17/1005396/predictive-policing-algorithms-racist-dismantled-machine-learning-bias-criminal-justice/

nor in the accuracy for individual groups of ethnicities. Moreover, if the model is to be used in any of the direct interventions with students, it was our legal duty to remove such attributes. On one hand, it is not advisable that students are targeted by their ethnicity category. On the other hand, the fact that these attributes shown to be important suggest that there might be some structural inequalities in the curriculum. Moreover, our later results from the analysis show that the highest gap seems to be in the TMA score, which was not part of this evaluation and as such should be considered for future.

3.4 Qualitative Analysis Part I

In the focus groups and interviews we conducted, we presented the patterns described in the previous section to 6 Black students, as well as 6 educators from diverse backgrounds. All of the students were recruited, as described previously, from STEM modules. Educators were recruited from across the University, including STEM, to get a clearer picture of how the experiences Black students have in the STEM faculty may be shared or specific to their study programme.

In the subsections below, we describe initial participant responses to the overall patterns described in section 3.1 (including reasons for withdrawal), the impact on students scoring lower on the IMD (reported in section 3.2) and the fairness analysis described in section 3.3. In section 3.5, we will go more deeply into our qualitative analysis of themes emerging from the data.

3.4.1 General remarks
All of the students we spoke to were quite surprised to learn that the awarding gap is so high. Some students did not know that tutors had access to the information about their submission behaviour that is collected through OUAnalyse. Upon learning where the gap is highest, educators and students we spoke to felt that many different issues were at play, including individual motivation, life circumstances, relationships with tutors and with the University. We discuss these themes in more detail in section 3.5. With regard to reasons for withdrawal, both students and educators felt that precarity in the life situation of some Black students may impact their ability to plan for such a large financial cost, and that many students will have no safety net, should their financial situation change unexpectedly. This may contribute to the more dynamic patterns we observed in student withdrawal. However, there were also suggestions to study this phenomenon in Scotland, where student fees are covered for those who have been resident for 3 years prior. There was the sense that gathering the type of data we presented to the participants could be an important resource to understand the awarding gap, but that care needs to be taken to really collect the right data. We also must be careful to ensure that students understand that the awarding gap is a deficit of the institution and not of the student.

3.4.2 OUA and the IMD
Remarks were fairly homogenous in response to the data that OUAnalyse appears to be working best for students with multiple forms of marginalisation (as determined by their scoring on the IMD). Educators, in particular, spoke about the help-seeking behaviours of students and how students who may have been overlooked for the majority of their education may not have the confidence to reach out for assistance when they need it. That OUAnalyse prompts educators to check in on these students, even if the prediction is less fair (see section 3.4.3), was mostly viewed as a positive step. Most students and educators agreed that reaching out creates a sense of care and that this is appreciated. However, 1 of the participants, who is a very independent learner, felt that this could be grating if the student is choosing to study at The Open University because they do not want much interaction with other learners or their tutor.

3.4.3 Fairness Patterns
When we presented the analysis on fairness, we first asked participants if they believed the model would perform the same for students with different ethnicities. All students we spoke to believed that it would. All educators that participated believed that it would not. Then we presented the error rates we observed for Black, Asian and White students. Students and educators were most concerned about the error rates that result in students who do need help going unidentified (false negatives), and as a secondary

consideration the loss of resources in attending to students who do not need help and were falsely predicted as needing intervention (false positives). The possible solutions proposed to improve the fairness of predictions involved improving data collection practices around students with intersecting identities and providing more institutional resources behind the development of OUAnalyse.

3.5 Qualitative Analysis Part II

Six themes emerged from our research with educators (n=6) and learners (n=6) at The Open University, in relation to the awarding gap between Black students and students who are White. As mentioned above, this gap has been revealed to be as high as 30%, when looking at students who have been awarded a 'good' grade. Understanding which features play a role in the awarding gap and what The Open University can do to address these issues is an important long-term research goal. In the short-term, we have provided this in-depth study with a small number of educators and learners, to explore some of these features within our own institution and suggestions/recommendations for mitigation strategies.

In each section below, we describe some background to the theme, a description of what types of comments were coded to this theme in our analysis, some examples from our data that illustrate the importance of the theme and any subcategories of the theme that were determined to be relevant. The last subsection of each theme includes some suggestions and recommendations for dealing with the theme within the University. It should be noted that themes often cross-over and interfere. This indicates a need for more intersectional studies of the awarding gap at The Open University.

3.5.1 Cultural Capital

Pierre Bourdieu described cultural capital as the social and cultural knowledge that impacts learner progression and also preserves social inequalities in the formal education system [Edgerton & Roberts, 2014].

This code was chosen for any statements from participants about the students' background or values that they felt were relevant to how they were or were not prepared to study at a (predominantly White) British institution of higher education. In our analysis, background experiences can have both protective and antagonistic impacts, in the context of the awarding gap. For example, a strong cultural appreciation for education can have a protective impact, but a negative cultural expectation on Black students' success in the UK can have antagonistic impacts.

The experiences discussed by participants that were included in cultural capital were: family values and ideas of education, previous educational experiences (particularly abroad), and previous expectations placed on you within the educational system (stemming from poor resourcing, as well as discrimination and racism, and leading to poor self-efficacy and reduced trust in the institution). Naturally, there is significant cross-over between themes of cultural capital and family matters, but we view this theme to be more related to what assumptions and values are gathered through these experiences.

The two primary themes in cultural capital:
1. How previous educational experiences impact how we perceive our current educational pathway.
2. How cultural values and expectations meet with realities of higher education in the UK.

The primary take away from this code for the purpose of data-driven approaches to understanding the awarding gap is this: **How little information we have about Black students and their backgrounds to be able to understand the awarding gap as we attempt to do currently.**

Values

Learners and educators we spoke to felt that cultural background can have an enormous effect on how one views education and learning, for example, through values around education. In families with

migration backgrounds, this can be even more pronounced. Students may have increased family pressure to be successful in education:

> *"For West Indian families, generally, there is this thing that education will get you where you need to be. Still, at the same time, it is a) can you get into the educational system?, b) have you got the tools to survive in the educational system?, and c) have you got the guidance that someone can help you pursue the education and maximise what you are doing?" (Student 2)*

> *"And one thing that I also notice is that raised Black people, we value education a lot, because I remember back home or my parents used to tell me study study study, it's only when I came here, I got, I understood, I understood that you can do other things than studying, you can do apprenticeship, for example, for example. But in all my life, I have been taught that you need to finish university, it may be because your parents did not study, that push you more because you want to complete it. So that as well I can contribute to the fact that Black people, if they are financially settled, it is incorporated in them that they need to study." (Student 6)*

> *"There is an element that if you don't have a higher degree you are seen as a failure." (Educator 1)*

These pressures are also not always shared or understood by other learners in their environment. Many of the learners we spoke to (as they are all taking STEM subjects) are used to being one of a few Black people in their modules.

> *"when I did my first degree at [UK CITY] the number of, I did engineering ok, it is a male dominated field, which was the faculty of [UK CITY] which did it at the time was 85% male, which was a big thing they were trying to address, but more importantly I think to give you an example when I went into do a maths lecture on a Monday morning the number of Black students in the maths hall of 400 I think would have numbered about 4." (Student 1)*

As we will see in another composite on "University Relations", students are also used to not seeing any person of colour as their educator. This may lead to students becoming isolated or withdrawn. Indeed, many students we spoke to did not have regular contact with other students or their educators.
Black students and educators were also able to compare these additional pressures against those of a White privileged student, for example, who may enjoy more personal freedom and choice around their studies.

> *"I attended a lecture at VCU, and one of the students, White female, I met there, she was a young, she was a young, female. They want to attend the, you know, all times for she wanted to just, she just wasn't interested in studying. So, she went for OU because it was more flexible and easy for her. Whereas for me as a Black person, maybe my age, especially, my age of the Black people might be something, something that you throw in this." (Student 5)*

Life Experience

As alluded to in the quote above, several participants felt that age may be a confounding factor to consider, as some students with migration backgrounds or those with less financial means may be older, and/or have higher family expectations on their time, or different pressures and expectations that they simply

cannot be compared. They may also have already completed a University education or other type of training in their previous country of residence. The reactions of students with such backgrounds to their performance early on may shape their motivations to continue, given these extra pressures.

> *"I think what I'm trying to get to, so we need to be comparing likes and likes so if we say for example the students are of the same age, if they are all of the same age or similar ages say for example I don't know early 20s and they go into the [institution] and then we look at the, then we look at the numbers and the results and then we can say ok the ethnicity is playing a part here, but if they are all the same age, different ages and say the majority of Black students maybe would be I say much older I'm just guessing here and then we look at the numbers and then it is not, not just the ethnicity anymore because as I say accurate, as I say if they choose to study much later and you have other things to worry about like family life and things like that you might not perform as well...so you want to eliminate all the variables" (Student 2)*

> *"I am privileged to have a degree from my country already. It is incomparable because as a full time, I went to class, I interacted with people but here it is online so it is difficult really to compare the experience to what I experience here really." (Student 3)*

> *"the graph goes up from registration to getting a good grade, I think right, once you get, once you get your finals, right, you will be a like, she said before, if you pay for a year, you know that whether or not you pass that year, your money has gone. So, you really have to work hard, we really have to work hard. So, I think that explain why Black person knowing that your money should be well spent, because you have your family back home. And if you spend 6000, on your education, you really have to pass it and get good grades." (Student 6)*

Previous educational systems

Experiences abroad in other educational systems can also impact what you know and don't know about specific world events and historical circumstances, which can impact how a learner performs later on. For example, one participant we spoke to commented:

> *"my English history is rubbish, it is crap because I wasn't here in secondary school learning White British history, but my colonial history on the other hand is much better than the average British one because it is now starting to swing around you know for me actually we know there were bad guys, but there is all the other bad stuff that nobody ever taught them about, told the students in the UK about, so that's why I mean about, to me it comes across its, its subject dependent and historical, historical, anything where its non-scientific I think it is open more in terms of being skewed than the science based ones, so the science based ones where I came from." (Student 1)*

In addition, just as cultural values may create pressure - to work hard and live up to the aspirations of families who may have sacrificed a lot to come to another country - there are also the impacts of negative expectations that are raised through negligence in the educational system and a lack of orientation.
For example, one student felt that foundational knowledge at the secondary level was not always appropriate and comprehensive enough to prepare students for tertiary education.

> *"And I think just coming back to the question, it is also about where all those Black student were educated before coming to The Open University because your experience is going to be different if*

you are working in London or a city in the UK versus a small village, versus Wales, versus Scotland, versus outside of the UK." (Student 4)

When this occurs disproportionately at schools where Black and Brown students study, it becomes a key feature in the awarding gap:

"...if your knowledge is shaky at the bottom level all that's happening is, it is a bit like playing Jenga you keep removing bits from the bottom or the top whilst trying to build bits of the bottom whilst trying to plough on at the top, so my view would be that gap that I talked about in terms of the understanding how to study gets wider and wider and wider. The impact of that, the higher you go in the course, i.e., the more difficult the course becomes because you are reliant on the basics being correct. One of the things that I learnt was understand the basics. (Student 1)

One of the educators we spoke to felt that this may also arise from learners not knowing what the expectations are, or those around them not communicating them.

"And if you don't know what you are aiming for, and you don't know what the impact is of the grading you get, you are just not plodding along, you are just kind of sucking it up, just getting along with it and just to pass. If you think that getting 60 is normal for you and no one told you any difference, you are going to just continue at the same rate, so I wonder if that feeds into it." (Educator 4)

"I do wonder if it is to do with the longer you are someone who feels disillusioned, disengaged, not feeling that you belong, that actually your motivation begins to deepen, you know that impacts it. So, at the beginning when you sign up to something, you might be tentative, you might be excited, looking forward to it and you might have expectations and those expectations were not met. If your experience is not what you hoped it would be, if you are finding it more difficult or more challenging than you thought it would be and I wonder if that impacts and it gets to the point when you are kind of like, I just need to get through this and that is actually something that some students do say that 'I just need to get through it'." (Educator 5)

Student perspectives on their future career success after tertiary education at The Open University can also impact motivation:

"During my journey right now, I might not enjoy it but I might doubt that at the end of it, I am going to be employed in this field so I think to a certain extent, it affects how I might perform later because I am not really sure. And also, some people already know how to use certain things in their learning but I don't. So, I think ideally OU is meant for apprentices, it is more beneficial, because they are learning on the job, they are putting things that they are learning in practice and it makes sense. I think it will improve the grade if you are in the field rather than staying at home or doing something, like you are coming from another job that is totally different from what you are going to be doing, I don't know." (Student 3)

All participants felt that the University is responsible for detecting these types of issues and resolving them with students, if we are serious about reducing the awarding gap.

"you know students are not one size fits all, there needs to be an overall culture of you know making sure that students feel that they can reach out for help but also making sure that tutors and ALs

know that is, or whoever it is at the university whom it's their role to be checking in on the students regularly, not just about academics achievement but generally knowing that they can reach out or they feel that they can ask for help and all of that kind of things." (Educator 4)

In fact, educators in our study notice that students who are from more normative backgrounds (e.g. White, born in the UK) tend to be more confident in seeking help, even when they are doing comparatively very well. Some students even push back against tutors when they feel something unfair has occurred. Educators seemed to agree that diverse students, particularly their Black students, are less confident in reaching out. Educators expressed concern that students absorb negative stereotypes and attribute challenges to their own skill or circumstances more often than to institutional factors.

"I have noticed that certain types of students do expect more of their tutors and even so for example you might get a student who is going really well and getting 90s and they still call to complain about the tutor, but they are not calling about the support just for them they say this tutor was not great for the group and you are thinking, but you've done really well why are you bothered, but then that doesn't mean that they were not correct that the tutor wasn't bad it is just that they've had the confidence just to say ok I may have done well here, but the tutor support on this module was poor whereas somebody else may not have the confidence to say that and they might think if they are doing badly you might think it is not the tutor it is you." (Educator 2)

Dealing with cultural capital as a feature of the awarding gap

In terms of how The Open University should respond to the awarding gap, one of the primary concerns educators had was in terms of bridging previous and current educational experiences.

"I think that if we are going to do or sort of make some changes at The Open University that had a significant impact, I think we can't just look at The Open University as like the students are here now and then we just forget their concerns here. I think how they study is hugely impacted by their prior experience before they come here so somehow we have to bridge that prior experience and be aware that we are going to have a range and there are going to be very very different types of students. So I think we probably have to be a bit more nuance about the data we collect" (Educator 3)

Educators felt this made the awarding gap an enormous ethical problem for the University, that it appeared unable to deliver an equitable quality output for all students.

"...at one end you are saying come to us and we will make sure you get your degree, but only if you are in a particular ethnicity will you get the degree that you want because that's the problem, everybody comes through the door and then once you are through the door." (Educator 1)

In terms of why OUAnalyse appeared to have a greater impact on students from Black, Asian or other minority ethnic backgrounds, particularly in combination with other data that indicates marginalisation and socio-economic challenges, most of the educators and students felt that it was because such students were missing many potential interventions to begin with, such that any intervention is likely to move the needle on their success.

"To be honest, I'm not sure why the algorithm isn't, is not picking up fairly, but maybe because, like, because there is not enough information about Black student backgrounds or Asian backgrounds...Immigration is only part of the background of a student. So maybe there's not enough information about these minorities, if there were enough information that will help the system to understand students better, therefore, predict better?" (Student 3)

"I think it makes complete sense that if you say that these students are potentially going to need more support and you give them more support, they are going to do better. I think that just follows. I think it could be potentially problematic because again it's saying these students are at risk of failing and not doing as well so they need special help without necessarily addressing the reasons why these students are at risk if that makes sense. So it's more than the tutors, it's the whole process, it's the whole culture within the institution and as [another participant] said, just being prescribed to, you know you have to do this, you have to do it this way, you know students are not one size fits all, there needs to be an overall culture of you know making sure that students feel that they can reach out for help but also making sure that tutors and ALs know that is, or whoever it is at the university whom it's their role to be checking in on the students regularly, not just about academics achievement but generally knowing that they can reach out or they feel that they can ask for help and all of that kind of things. So that's what I would say." (Educator 4)

3.5.2 Family Matters

In education, it is generally viewed to be a predictor of better learning habits, when one has family support [Román, Cuestas & Fenollar, 2008]. What does family support look like for Black students? What access to resources do they have? One of the consequences of population movement is losing family and social networks. Although Black and Minority Ethnic community members can build new networks in the country of residence, this process may take time and hence may not be available in the short term. Some communities can establish diaspora communities quicker than others. The Diaspora is "any community that has emigrated whose numbers make it visible in the host community" [Marienstras, 1989:125]. As Portes and Bach [1995:10] put it, the migration experience itself "can be conceptualised as a process of network building, which depends on and, in turn, reinforces social relationships across space". As participants in the study suggested, not everyone enjoyed membership of networks that can offer support and help with the student experience. Effectively, diaspora networks are "sets of interpersonal ties that connect migrants, former migrants, and non-migrants in origin and destination areas through ties of kinship, friendship and shared community origin" [Massey et al., 1993:448]. Diaspora networks are not necessarily aligned with geography [Rogers and Vertovec, 1995]. As Wellman [1999:xv] suggests, the trick "is to treat community as a social network rather than as a place". Hence, when it comes to diaspora networks, "the principle defining criterion for the community is what people do for each other and not where they live" [Vertovec, 2001:27].

Diaspora networks play a vital role in enabling Black and Ethnic Minorities to overcome specific vulnerabilities in the country of residence. These vulnerabilities, according to Pécoud and de Guchteneire [2004:3-4] (and which we explore later in our section on immigration experiences), include:

- Not mastering the language of the host state and may be unfamiliar with its legal system and administration
- Suffering from racism, xenophobia and discrimination, and being disturbed by the exposure to cultural and social practices that they may find alien.
- Suffering from the conventional assumption that foreigners/immigrants should not have equal rights as nationals do.

- The sectors of economic activity in which they are active. Ethnic minorities often have so-called 'three-D' jobs (dirty, degrading and dangerous)
- Over-representation in marginally viable and sometimes semilegal sectors such as seasonal agricultural work, domestic services and the sex industry, in which the protection of workers is underdeveloped.

The experiences discussed by participants in our study around family matters and other support were: childcare and proximity to support networks, access to assistance and resources, and balancing family, work and learning. Naturally, there is significant cross-over between themes of cultural capital and family matters, as well as immigration experiences. However, we view this theme to be more related to family support and the importance of family support in a successful learner journey.

The two primary themes that emerged in family matters are:
1. How being away from family support networks and lacking access to generational wealth may impact Black students disproportionately.
2. How the choice to study at The Open University because of flexibility may have different reasons and consequences for Black students.

The primary takeaway from this code for the purpose of data-driven approaches to understanding the awarding gap is this: **How the added pressures of family responsibility and lack of support impact Black students disproportionately and may impact the awarding gap significantly.**

Childcare and Family Responsibilities

Help with childcare is one of the subjects articulated by participants in the study. They suggest that the lack of family support made it difficult to get on with their studies. The following quotations articulate this challenge:

"I don't know, but I think maybe there is a relative that can help you with a weekend of childcare; I think that can make a big difference, but for most immigrants, it is 24/7; I have been told that. If you have people other than the child-minders who will take care of other things, maybe it reduces." (Student 3).

"Family-related things impact many students knowing that if the student has more responsibilities." (Student 6).

Waiting until the circumstances are right to go to university means some OU Black students begin their studies later in life. Doing so means that they may start the modules when they have work, family and childcare responsibilities making it harder for them to dedicate as much time to their studies. The following quotations capture these experiences vividly:

"the financial circumstances [are] that, … if you are coming out when you are very old, or you are much older because you couldn't come when you were younger because you didn't have the means to go to university, so you wait until you start working, and then you start, you try to study maybe, you might find it harder to juggle family life and studies and things like that. Yes, whereas if you come in younger because you can afford it, maybe your family can afford it, perhaps it might be in

a better mindset to study or something, and you might perform better, I don't know, I don't know."
(Student 2).

"Being a Black person, having immigration issues, having children, having work. So maybe that could be something that could add to that as well, because I think Black people, the majority, I could be wrong, the majority might have more heavy burdens than the White people, if you know what I mean, the heavy, when I say heavy bags, I mean, like, you know, a lot of things, a lot of things impacting their lives, while studying with OU." (Student 5).

"Those 20 something year olds who didn't care in the world attended OU for convenience because they couldn't cope with the traditional ways of learning. So she didn't have kids; she didn't have anything. So, money for another Black person, I, you know, I've got other things that have to deal with. So that makes it more difficult for me than for her, who was born here having access to finance and everything." (Student 5)

Lack of Family Support/Being the family support

The challenges associated with the absence of networks and other support make The Open University attractive to participants in the study because of the flexibility. Flexibility, as articulated in the following statement, enables students to overcome challenges such as childcare:

"It is the flexibility that I can manage a full-time job, two kids and study when I want to study. So, OU, I think, has been the only university that has provided me with that option. Hence why I chose to study with OU." (Student 4).

"I chose OU because of the flexibility; although this fit, I have [number] kids and a [type] business to run. So I study in the evening, which any other university will not allow me and studying at home is also easier for me because I don't have to get childcare for my kids. After all, it's really expensive." (Student 6).

Although participants discussed the impact of the absence of family networks and other support, they raised other issues that might affect their studies. They highlighted having to work hard to get money to support themselves and spare resources to send as remittances to members of their families in their countries of origin. This experience is captured in the following statement:

"Our system is totally different. As Africans, our system is totally different. As a Black person, you take care of your mom; you take care of your dad, take care of your siblings, take care of so many people. So, when you're in a different country, even though you're working, most of your resources goes back home to take care of some of those people. So that tends to affect even your ability to increase or advance in your academics. So sometimes, they may dream, okay, I want to get a mission, but along the way, you discover that how will you cope with their finances is dwindling. That will be another reason why they pull out." (Student 4).

Impact of COVID-19

The Covid-19 Pandemic and the resulting government support helped to manage some of the vulnerabilities of participants in the study and made it possible to achieve what would have been difficult

otherwise. Working from home enabled them to safely travel to and from work, addressed some of the challenges (childcare, for example), and helped them perform better in their studies than expected. As some industries return to typical function, what impact will this have on the continued journeys of some students? This is expressed in the following statement:

> *"I think it is the same reason. I can speak for myself, If it were not for Pandemic, I probably would not have the time, but because I was home, I got all the time to concentrate on my studies, you know and do all that. With what I have achieved, I can say that I found the modules challenging, but because I have the time to concentrate on them and do my best, I surprised myself. But I think when things go back to normal, I don't know if I will be able to. I might have to drop some modules or maybe just one or two so that I can balance things." (Student 3)*

Dealing with family matters as a feature of the awarding gap

Family support is a somewhat hidden feature of success in learning, though it is well-documented as a predictor of success. If The Open University wishes to impact this feature of the awarding gap, it might explore new ways of determining funding eligibility or providing childcare support for students from diverse backgrounds, particularly if they find themselves cut off from typical family support networks due to population movement.

3.5.3 Immigration Experience

It would be difficult to talk about the Black students' award gap without considering their immigration experience, whether direct or indirect. Migration is defined as "the geographic movement of people across a specified boundary for the purpose of establishing a new permanent or semi-permanent residence" [Haupt and Kane, 1998:35]. As Buonfino [2007:111] suggests, "migration has always acted as a key factor in creating, shaping and sometimes undoing civilisations from the great empires of Rome and Egypt to the commercial maritime powers of the nineteenth century". Migration involves two processes, emigration and immigration. Emigration is leaving the country of birth or residence, whereas immigration relates to entering and settling in another country. The relocation underpinning migration is "not only a spatial relocation but a far-reaching personal experience" [Carling, 2005:6]. Through the immigration process, the newcomers have to deal with, when establishing their legal residence and everyday issues such as food, shelter, work, healthcare, education and so forth.

The experiences discussed by participants in our study around immigration (first hand or through their families) were: comparisons between different educational systems, changes in relationships toward education over generations of immigrant families, and language bias in how knowledge is measured. As with other codes, there are crossovers between this code and Cultural Capital, as well as several other features in this report. However, this code is related to immigration experiences of Black people in the UK as a specific feature that may be different from other experiences of Black learners in the UK and that have an impact on the awarding gap.

The two primary themes in immigration experiences are:
1. How immigration status can impact everything from how much you know about the subject you will be studying, the funding available to you to study, and
2. How generational responses within immigrant families shift with the passage of time and depending on the wave of immigration that brought them to the UK.

The primary take away from this code for the purpose of data-driven approaches to understanding the awarding gap is this: **The differences of Black students' previous experiences, based on their own country of origin (if they are immigrants), the home country of their families (if they are second or third generation here in the UK), their experiences growing up Black and British (if they are not immigrants themselves) all impact the awarding gap in different ways. Looking at Black students as a monolith is not likely to yield good results.**

Making comparisons

The experience of students born in the UK is different from the experience of students who immigrated to the UK. Likewise, the experience of students who completed their primary and secondary education in the UK is different from the experience of students who move to the UK for their third level education. These differences are highlighted in these quotes:

> *"My secondary education was done in a Black country, right, so I have maybe unique or depending on how you want to look at it perspective of the education system, so I don't have an in-depth knowledge of the UK secondary education system … my experience of the British education system is unique in the sense that I can compare against Black systems." (Student 1)*

> *"We have students from all over the world, so is there a difference between the Black students based in the UK and Black students based in Black-majority countries that study with us?" (Educator 2)*

While Black students who come to the UK from overseas have to make adjustments when they join the university in the UK, they have the advantage of having been students in a system that encouraged them to excel. This may not be the case for Black students in primary and secondary schools in the UK who might have negative experiences. The following quotation offers some insights:

> *"I also thought that the standard of education received by [relative] when he was at that age was far worse than what I saw for the equivalent student in [country of origin] … most of my Black peers in Britain ... didn't … have the ability to access or were not encouraged to aspire to their harder science subjects like physics, maths, chemistry etc." (Student 1)*

Once the Black students get the grades to go to the university, they are not helped by the lack of role models who share their backgrounds. Historically, even when there are people who look like them in the academics they come across, it does not take them to realise that these academics relocated to the UK for work. The following quotation highlights this experience:
> *"If you saw an engineer or a scientist and they were of colour at university at that point in time, you could be nine times out of ten they came from abroad." (Student 1)*

Changes over generations

Educational expectations change over time as the people establish themselves. While the first generation might be content to focus on getting by, their children's ambitions might be different. The education system has to adjust and support Black students to achieve their ambitions rather than force them to send their children back to their countries of origin to get a better shot at education. Those Black students who

manage to make it to university without having to study in their parent's country of origin have to adjust to new realities at university to achieve their targets. These quotes highlight the changing dynamics:

> *"Most of the Windrush generation, of which my dad would be presumed to be one, came to do more of the jobs that British people didn't want to do, so it was things like the admin jobs, the nursing jobs, bus driver jobs, those kinds of things. Now the level of expectation in terms of education for those being part of the social structure of people was lower than the ones obviously that had gone back to the Caribbean, so I think it has taken a while for in effect that trying to put it, the group of people to realise we are part of Britain truly and but that we should set expectations amongst our kids, we should be no different to the White ones."* (Student 1)

> *"For West Indian families generally, there is this thing that education will get you where you need to be. Still, at that time, it is a can you get into the educational system, but have you got the tools to survive in the educational system and have you got the guidance that someone can help you pulse the education and maximise what you are doing. I think that wasn't handed out on a plate. People got a bit wise to it, and as we got better understanding it, we have managed to put more and more Black students, managed to get more and more Black students to come to the fore, so it has taken a bit of an agenda, it is just my theory it has taken a bit of a generation for that to happen."* (Student 1)

> *"Some migrated from different countries … subjected to different behaviours before they came here and others were born here. I don't know; like I said, I have been a graduate before, so I know what it means to submit things on time, so I have got that discipline already. So partially, that is how we have been told that a way to get out of poverty is education, so really, from where I come from, we do respect education, so you have to do your best when given the opportunity."* (Student 3)

When studying the award gap, it is critical to avoid seeing the Black student as a cohesive group. Immigration experience is one of the many differences that may impact their educational experiences.

Language Bias in measuring knowledge

Immigration can be a filter in getting a picture of the English language competencies of students; this is not to say that all the migrant Black students have the exact language support needs. Any support provided by The OU, should be tailored to the individual needs. There are differences between science-based subjects and humanities regarding the value of English language proficiency. There are also different expectations as students move from the beginning to the end of The Open University modules. English language proficiency is critical as the student moves across the module cycles. Critically, The Open University should ensure that the language bias issue does not arise and impact negatively on the award gap. Language proficiency can also influence whether or not Black students seek help if needed. The following quotations highlight what is at stake:

> *"We need to bear in mind that most … minority people have English as a second language. And if we're being scored based on how good our English is, we can't compete with the White people. You know, because sometimes, some of the modules are marked based on how you present your work in your English. And for me, do I think this is a fair way of measuring knowledge? I don't think so. Because maybe I can express myself better in my language and present my work better in my first*

language. So, I guess for the BAME people measuring or scoring our TMAS and EMAs, based on how well we speak English, I'll be done." (Student 5)

"When we get to those [higher module] levels, it's more writing. And we know English is not our first language. So, we can't write, as well as the, you know, the English people. So if we're being scored based on how we present our thoughts are mainly scored based on how well we present our thoughts in English writing, I think that has a significant impact because, in the end, you're looking at a lot of writing, the second year, a lot of project work and things like that, which is basically English." (Student 6)

Dealing with immigration experience as a feature of the awarding gap

Participants in our study mentioned over and over again how little we understand about the family of learners, their support networks, the perceptions of these individuals toward their learning journeys. There are positive and protective aspects of immigration experience that could be highlighted and celebrated, like the cultural capital one brings from positive educational experiences and values abroad. There are also harsh realities of the immigration experience, like distance between families and increased pressure to provide for one's own, as well as not fully understanding administrative and legal systems, or being able to participate in them.

"Black students and not knowing they can ask the questions, not having the academic understanding, nor grasping the academic language but also their experience of education if they weren't educated in the UK, their understanding some of the concept or in terms of referencing … the answer … depended on where students were educated in the UK as well as outside of the UK." (Educator 4)

As an institution that wishes to provide accessible education, The Open University might consider ways of bridging these gaps more effectively for students with an immigration background. One participant suggested:

"I think the key thing for me is the language bias…if The Open University can look into that to ensure there is no unconscious bias in terms of English language to ensure that BAME students are fairly scored based on your knowledge rather than based on the English. I know English and writing is important. But you know, there can be some balance to ensure fairness because most BAME students who attend OU are not born in England." (Student 6)

3.5.4 Socio-Economic Factors

The economic inclusion of Black, Asian and minority ethnic communities has many dimensions, including access to the labour market, education, housing and health [Carrera, 2005:6; and Collett, 2006:19]. Success indicators include income level, social security use, language acquisition, housing and residence patterns, and employment [Entzinger and Biezelved, 2003:19]. The mastery of the national language is an indicator of economic success [Hansen, 2003:35], as was discussed in our last section on immigration experience.

The vulnerability of Black, Asian and other minority ethnic communities in the labour market has many underpinning factors, including (1) language ability and familiarity with the legal system and

administration; (2) experiences of racism, xenophobia and discrimination, at the same time as one is exposed as well to new cultural and social practices; (3) perceptions around their status and rights in the UK; (4) vulnerability, increased by the sectors of economic activity in which they are active, the so-called 'three-D' jobs (dirty, degrading and dangerous); and (5) over-representation in marginally viable and sometimes semilegal sectors such as seasonal agricultural work, domestic services and the sex industry, in which the protection of workers is underdeveloped [Pécoud & de Guchteneire, 2004:3-4]. Although the situation may even out over time, issues around "race" don't necessarily go away [Alba and Nee, 2003; Jacoby, 2004; and Kivisto, 2005].

The experiences discussed by participants in our study around their socio-economic situation included compiled financial pressures, the real need for flexible learning and the impact of COVID-19 assistance. As with other codes, there are crossovers between this code and Family Matters, Immigration and Cultural Capital, but this code is related to the practical financial and economic considerations of Black learners at The Open University.

The two primary themes in the socio-economic feature:
1. How the combination of financial pressures may show up disproportionately in Black communities.
2. How the current crisis and economic crunch, its burdens and negative public perceptions are likely to influence Black, Asian and other minority ethnic communities disproportionately.

The primary takeaway from this code for the purpose of data-driven approaches to understanding the awarding gap is this: **While many students struggle with the financial commitment of a university degree, Black students are most likely doing so with less help, more pressure and less value in return.**

Compiled financial pressure

Participants argued that finance is an essential factor in Black students' awarding gap. Issues around finance revolve around balancing work, family, and study, waiting until the financial situation improves before going to university, overcoming problems relating to student finance, and there are differences in finances between nations in the UK. See the following quotations for details:

> *"you need to balance it because it is important to do your job and go to school and it is important to maintain your job and go to school so financially can be ... Because I know that from other people I have talked to have mentioned financial reason … they want to go to work and they didn't have the time to do both." (Student 3)*

> *"If you have more things to worry about in your environment, so if you come from a poor background, a poorer background, you might have more problems interfering with your studies or leading you to withdraw from your studies, and that might be higher in minority students if you want … for someone who really doesn't want to carry on because ok I haven't got enough money I really can't afford it, that's it the end of the story." (Student 2)*

> *"Most of the time, the financial condition of the student, especially Black people, you don't always get student finance." (Student 6)*

> *"Being a British Black guy in the UK… knowing that certain people don't have the financial support. You know, if your support is just the student loan or your work supporting you then you don't have*

grandad or mum or dad to support you…if you are a certain social demographic or demographic you don't have that, certain people do have that you know." (Educator 1)

The need for flexible learning

Participants noted that The OU offers learning opportunities while working, which would be difficult for some in brick universities. These experiences are highlighted in the following statements:

"I was looking for something flexible at the time, I wanted to study, but I didn't want to stop working, so I heard about The Open University. I think somebody at work was also doing something similar at my previous work." (Student 2)

"The Open University it's flexible for me, and all of those things. But I think for the fees that I have made a lot at the beginning of the year, and whereas most of the people are allowed to use student finance, and get, go to any university they want, if they have, if they have to. I know The Open University is very flexible, but I have to choose The Open University." (Student 5)

Impact of COVID-19 and other societal pressures

The government subsidies during the pandemic helped some participants who, on the one hand, got extra cash and time to dedicate to their studies; the situation is likely to change as the payments are passed out. These experiences are highlighted in the following statement:

"I was working pre-Pandemic, I was self-employed, so I did benefit from the self-employment payment, so I didn't need to … obviously, I am going to go to my level … [X]. The payment is not there, so I need to go during the week, so I think that is going to change totally … I took more modules because of the lockdown. As soon as it finishes, another is due; you know it is always like that. I wouldn't have managed to do it if I was going to work or anything." (Student 3)

Participants noted that changes in attitudes in the external environment (such as racism) are linked to the economic situation in the country. Economic exclusion aside, Black students have to face challenges associated with the rise in racism whenever there is a recession. This situation also impacts their performance as students, as highlighted in this quote:

"The wealth of Britain, so for example and this again is just me you have a lot of people who have an anti-immigrant feeling, call it anti-Black feeling about people being over here and the wealth of Britain has dropped, and it comes back to this feeling of quite privileged as well, so a lot, for me a lot … but a lot of the wealth that Britain enjoys came on the back of the commonwealth." (Student 1)

Dealing with socio-economic factors as a feature of the awarding gap

Getting a good degree is important for any student, especially Black students who have many hurdles to overcome to get into the labour market. The following quotation underscores why the award gap is particularly relevant for the cohort:

"This student has come to The Open University for the majority of the time to better themselves with that degree. Now if … [they] can't get the qualification of the degree and … [they] are already at the bottom end of the scales so to speak, then have you, is The Open University really helping that person whether they know it or not … [they] have come to The Open University already at a

disadvantage because … [they are] Black so to speak, but then … [the] degree doesn't get … [them] through the door as well, so what, where do … [they] go from there." (Educator 1)

Withdrawal from OU modules by Black students can come about because of finances and other underlying issues, including housing, healthcare, as articulated in the following statement:

"We get a lot of people withdrawing for financial reasons, either they've lost their job, or they've got, you also get people who are in unstable home environments where they are about to be made homeless and so on … students withdrawing for mental health reasons." (Educator 2)

"I am just thinking so in Scotland, and money won't be an issue, you know your school fees are paid for if you are earning less than 25k, so did you look at that?" (Educator 4)

The limitation on data collected by The Open University was highlighted as a challenge. Gathering the standard data such as whether students are employed or not is a good start; nevertheless, limiting data to the information needed by The Open University for reporting purposes may miss issues such as homelessness that are likely to impact the students' performance and withdrawals. This is articulated in the following statements:

"We ask them things like are they employed or unemployed, we never ask them things about their home background … we ask them things like you know what's your education level, have any of your parents been to university, are you employed, are you unemployed and that's mainly because we have to collect that data for government statistics. We don't ask them are you in temporary housing, are you living in a refuge or something like that perhaps they only tell us that if something has happened as a problem … domestic violence or you are about to be made homeless, and you have children, your tuition." (Educator 2)

"It might help the tuition if their tutor does know the home situation of their students either at the start of the module … student A who was already at that precarious situation when they enrolled, so they are living in a home refuse, or they are living in a house or an abused women [home] if that information is on the system like the information we have regarding their mental health or their learning disability …that might just give the tutor some kind of, ok I've got a student here who might not be able to submit their TMA on time or might not have access to a computer, so maybe it gives them some information to be more supportive if they are not supportive enough." (Educator 1)

Understanding the socio-economic issues of Black students, particularly around events that can seriously impact a students' education (like losing a job or housing), and providing clear access to support, may help to get earlier assistance to learners who are truly at-risk.

3.5.5 University Relations Theme

The awarding gap has been viewed through a White-centred lens as an "achievement gap": perceived inadequate academic fitness or perceived cultural barriers to success from within Black communities. In response to insights from Black educational leaders and activists, however, institutions have begun to assess their own role in the provision of quality education to Black students, via a different paradigm of the "awarding gap". This includes looking at how Whiteness is performed at an institution and what this communicates to students about their belonging [National Union of Students, 2011; Richardson, 2018]. It

also includes teachers' assumptions, assessment procedures and tools, and behaviour management decisions [Doharty, 2019].

Black students at predominantly White institutions report experiences of othering on their campuses (including misclassification of identities and stereotypes) and a lack of representation in their classrooms [Osbourne, Barnett & Blackwood, 2021]. One of the consequences of low representation is that Black students have fewer people to which they can appeal for understanding around racialised experiences. This can result in racial gaslighting of students. It also results in a curriculum that is less likely to be diverse and inclusive [Atkinson, Bardgett, Budd, Finn, Kissane, Qureshi & Sivasundaram, 2018]. Black students and their families need to make tough decisions about their University of choice, including whether or not the institution will be a safe place for a Black student to thrive [Feagin, Vera & Imani, 2014]. In our interviews, these same themes emerged as being relevant to the awarding gap.

The experiences discussed by participants in our study about their relationships within and expectations of the University included: the undesired consequences of the necessity for flexible learning, the meaning of an accessible and quality education for Black students, decolonising the curricula, and the impact of poor diverse representation, the impact on help-seeking behaviours, experiences with tutors or other University officials, and expectations of the University.

The two primary themes that emerged with regard to University relations were:
1. How the lack of representation at the University harms several aspects of the student experience, including feelings of self-efficacy and belonging, conflict resolution and other types of pastoral care.
2. The importance of people and resourcing people (the right people) to help support Black students on their journey.

The primary take away from this code for the purpose of data-driven approaches to understanding the awarding gap is this: **How representation impacts the learning experience at all levels, including both learners and educators, and how important it is to be actively inclusive.**

Flexibility and Isolation

Understanding why students choose The Open University is important to understanding some of the background conditions influencing the awarding gap. For example, all of the students in the study and many of the educators from diverse backgrounds chose The Open University because of flexibility. However, the flexibility was typically a "must have" and not a "nice to have", which is a distinction that may be important, particularly when interpreting student behaviour:

> *"Why I had to pick OU was because of the flexibility. I at the point I was travelling a lot. So I felt is only The Open University programme that can allow me, you know, travel and yet still, you know, do the programme with such flexibility. And basically, that was my main reason for choosing OU." (Student 4)*

> *"I know The Open University is very flexible for me, but I have to choose The Open University. So all these all these information are not known by this [OUAnalyse] algorithm. So they might predict that you are going to fail, whereas you will be you will be working two times more than others because you know you have many responsibilities." (Student 5)*

The flexibility desired by Black students may not be the same as the flexibility desired by other students. Some of these students do prefer to learn at a distance, particularly when they are confident learners:

> *"I hardly attend any lectures, I just read the books, ok and I've done, when I have been able to get the time I do quite well, I mean I get in the high 90s right, it is just a matter of getting the time to it, so my interaction with The Open University it would be beyond here is an exam, here's a test study for this is absolutely minimal." (Student 1)*

> *"No, no, I've got good relationships with my tutors. I don't really interact with them very much or very often. I maybe it is the way I prefer to study, so I work as well as I study, so I, so yes I manage my own time basically." (Student 2)*

However, some may not and some may need some additional support mechanisms that will require more effort to provide, if we want to ensure the success of these students. For example, some students may need the support of their colleagues to help them access new learning skills or cope with different experiences in the institution. It's not clear how The Open University is catering to those students' real needs, while balancing safeguarding:

> *"I have a friend whom I introduce to OU. And she left after the first year. And the reason she told me was that it's too lonely, you know that there was a time she tried putting up a number, so that she should be called and I think that number was deleted? So that got me very curious, that is a part of OU policy, not to allow students to mix?" (Student 4)*

> *"My last team project involved working with other students, one was in [place name] one was in [place name], one was in [place name]. And in any case, I think we only met one or twice and that was it." (Student 3)*

> *"I wanted someone who lives in [City] and, and who I can go sometimes away to the library and study with, because I have never been used to the idea of studying on my own at home is a bit difficult, is a change for me. And in the comments section, they were only White people responding. And they were all saying that they were fine sitting at home." (Student 6)*

Accessible, Quality Education

While accessible education is perceived as an excellent mission, there is concern that The Open University does not have enough mechanisms in place to ensure that once students are matriculated, they are given every opportunity and assistance to be successful.

> *"You need to identify those kids who were at risk, understand the nature of that risk, test that and then put the programme in place, which they must adhere to as part of their remit for coming to college to plug that gap because you know if they don't plug that gap then they are going to fail in three years' time." (Student 1)*

> *"Apparently it is even if the students come in with the same level as their White counterparts they are still leaving with a lesser degree, so it is not about a student that wasn't capable of doing the degree these are all capable students coming through the door, but when they come through the door something happens and they can't get the degree that their skills and quality suggest that they should." (Educator 1)*

In addition, some students and educators felt that the University is not forthcoming enough to Black students about the awarding gap or how student work is tracked and graded.

> *"If you are from a Black minority ethnicity you don't understand that actually coloured students at The Open University could actually be at a disadvantage because yes you might get your degree, but it is not the qualification or degree that somebody else would get based on your colour and that is the thing that really gets me riled about it that you have got one ethos saying we are this, but the machinery of your ethos is not actually fulfilling that dream fully." (Educator 1)*

> *"I'm surprised to see this to be honest. There's a gap, I would expect the reverse data of about, you know, the dedication the Black students put in because they have to pay, they have to personally fund themselves. So, I would actually expect the graph to be the reverse, which is the Black students actually passing more. So, I will question the data." (Student 5)*

> *"A lot of the students that we work with have no idea how their degrees are graded and I have to say we have tried to find student friendly way of explaining that but I and my colleagues have not be able to find something that clearly explains to students how the grading work, how the TMA are graded other than the different TMA and the % breakdown and the module calculator you know, they really don't understand how their degree is graded but also what that result means going forward they get their degree." (Educator 4)*

Tutors do not always provide the same level of support to students and students do not always have a tutor that is proactive in getting in touch.

> *"Since I started with The Open University, the response has always been from me. The initial communication has only been from me. I can't remember a time when The Open University will call me for any topic, except when I write to them. And then they reply." (Student 4)*

> *"I think I was contacted by Tutor, either once or twice, because he noticed I hadn't logged into my course website. And he was concerned because he thought I wasn't studying. But at the time, I had two modules, so I was concentrating on the one that had the closest submission dates, I hadn't logged into the other one. So, he was concerned. And he messaged me and said he noticed I hadn't, you know, visited the module site, which is quite surprising, because I didn't know tutors could have access to the information. So, it was quite good to know that there was a tutor who cared, you know, for me to contact me in that respect. So yeah, it's been, it's been usually from me, but I've had one or two occasions where the tutor has reached out to me." (Student 5)*

> *"In my case, it has always been me initiating, even when it's come to, to understand in my lectures or understanding the book, I always initiate with the tutor, if I don't get something I emailed them. The response is great, but obviously, it's always me doing that step." (Student 6)*

> *"I always find that quite frustrating because the majority of ALs are contacting students, are trying to and you are going to get some students who don't engage because that's why they picked The Open University in the first place, they don't want to engage let's say with a tutor and that's fine, but it is that balance and I think a lot of the ALs are not doing that enough, they are not doing that contact enough to have that tutor/student relationship, which is paramount if it is distance learning. It really is paramount." (Educator 1)*

"There are some ALs that support students with kind of personal issues, but they seem the students don't really have someone they can go to." (Educator 4)

Decolonising Curricula

While students in our study, who are all studying STEM subjects, did not focus on decolonising the curriculum, educators we spoke to (who cross faculties) and student support services do observe multiple impacts of curriculum on students. This is not limited to impacts on students from minority ethnic backgrounds.

"If you are looking at our curriculum, how inclusive is our curriculum of The Open University? It is not, so again does that affect the way somebody interacts with the content, does it affect the way they interact with the tutor and all those I think are variables that sometimes will affect a particular student of a particular ethnicity. If you feel either incorrectly or correctly that the module you are taking isn't supportive of you as a Black person how can you really engage with it?" (Educator 1)

"In business school or law school, you know small but significantly diverse students and the attainment gap is there as well, but I am not sure how much decolonising of the curriculum has happened." (Educator 3)

"Students are introduced to Black history through enslavement…the British went to Africa and they took Africans out of Africa and there was nothing there in Africa worth their while anyway and then the British were great because they ended enslavement. Absolutely inaccurate history and no thought about the trauma that this has on Black students and equally no thought about the impact that this has on White learners in maintaining the status quo." (Educator 5)

Representation of Black, Asian and other minority ethnic staff and students

In general, representation at The Open University (in the classroom and in the organisation) was a theme that both Black students and Educators with diverse backgrounds found important when thinking about their well-being and success - an extra pressure to carry:

"I don't think people from ethnic minorities go into an organisation thinking they are going to get safe space, thinking that they are going to be able to speak openly and authentically. Being able to be their authentic self, show their authentic self and share their lived experience freely without judgement or defensiveness or being challenged." (Educator 4)

"So, I'm in my last two modules, starting in September, and I have not come across one diverse or BAME tutor, which is a bit of a red flag for me, because I started, I think 2017 January, and all the tutors I've had, they've all been White people. And for me, as another person from the minority background, it's not too comfortable when all through my years, I haven't come across somebody who can identify with me." (Student 5)

"I haven't noticed that before. I will just think I have never noticed if my tutors were from Black, but now she pointed it out. I'm like yeah, yeah, but to be honest, because I'm starting, I don't know much about him yet. To add to what she just said. It's not just my tutor. So, I do attend other

lectures. You know, I do see talks in the comments in the forums where I haven't come across a BAME tutor who is an Asian or African, they have always been Caucasian." (Student 6)

"No one had actually looked to see that of the 10 members of the committee that 8 were White middle-class males." (Educator 3)

Not only is representation important for belonging, it has a real impact on how people from diverse backgrounds can act within their environments:

"And also there is a power dynamic there as well because often you go into the spaces as a one of the only and you are in a room full on White men, White men or women, middle class or students who are committed to their point of view and are several pay scales above you or in your case, permanent employee versus contractors so there is power dynamic when we have these conversation because there are not enough people in the organisation with enough experience and that is what I have found in the 8 months and the work that we are doing." (Educator 4)

"How do we actually change things? How do we actually introduce antiracist pedagogy into a conversation, never mind how do we use it on a module?" (Educator 5)

It may also impact help-seeking activity from the student perspective:

"The last thing you want to do is to ask what's seemingly a stupid question and make yourself feel even worse or have that person who is teaching you judge you." (Educator 2)

Dealing with university relations as a feature of the awarding gap

Students and educators both felt that more effort could be made to approach students directly and let them know that they have support.

"I think most people just need to realise that there is somebody out there who cares about what they are going to do next, you know. Sometimes life can be a bit lonely, you can think it is only you, it's yourself you know so it makes a difference." (Student 3)

"I just put myself on my camera and I will just say hello students how are you all doing, how are things, how is your TMA going… I try and make it a bit jokey, put it on and then send it to the students. Not everybody responds, but to me that's one way of keeping in contact and what you get sometimes is somebody email and go 'I just saw your video I actually wanted to speak to you' and then it brings something up and then you keep that continuation going." (Educator 1)

"Because in institutions that have reduced and reversed the awarding gap, there has been a mentoring scheme and so you could combine the 2 by having people's faces on the screen, you know, this is who you can contact and add into the learning advert." (Educator 5)

"We need to be having much more human contact and we can have that and try and start breaking that barriers early on, that would make a whole experience for a degree, I suppose that's where we suffer." (Educator 3)

> *"Some people have gone through their whole degree without speaking to their tutors so I think it is that real lack of contact. I don't know if we have got enough information to kind of ascertain why that is." (Educator 4)*

At the institutional level, to actually reduce the awarding gap, the general advice is first to get the right data on underlying issues and pressures on Black students. Then, to address underlying issues with University policy or provide meaningful support so that the student can address them.

> *"If you continuously contact the people who don't need your help because of the false positives then you are going to miss out on the people who do need the help." (Educator 1)*

> *"You know, I think this is a good tool, it will help. You will help us a lot, but it would only help us if the data is correct. And the information being gathered, actually represents something that would influence this." (Student 5)*

> *"I think just like what they do with the tutors, like highlighting people that are most at risk first and find what the issue is, so if it's financial, if they need to apply for additional financial help or if they need more time to complete their…. Or they could even introduce some modules that are done monthly instead of over 12 weeks or maybe just do them over 20 weeks, things like that, I don't know." (Student 3)*

> *"I'll give you an example - at The Open University a first class is 85% and above. Other HEs it is 70% to get a first class, so we are already disadvantaging our students. If you have to get 85 to get a first class at The Open University, but at [Another University] all you have to do is get 70 then already there is a disadvantage with Black to White students then the disadvantage comes even wider." (Educator 1)*

> *"It [gathering data about the student] is only really useful to the student if you are going to do something with it to help them and people's living situations are something we can't really influence. " (Educator 2)*

> *"I just don't see them putting in the resource that is needed…I don't see a wider conversation, though, a real conversation happening and I think there are a lot of White middle class men and women in this institution that are not prepared to change." (Educator 4)*

3.5.6 Racism/Discrimination in the Milieu

Understanding the award gap requires looking beyond the obvious, i.e., the degree awarded to members of a particular cohort. As this research explores the experience of Black students explicitly, there is little doubt that racism and discrimination may play a part in students' achievements. Racism through a social construct can impact how students get on with their performance. In this section of the report, the focus will be on racism and discrimination outside the university. Wilson [1999:14] suggests that racism is "an ideology of racial domination". Historically the proponents of racialisation used science (biology) to justify their prejudices. Racialisation, according to Brunsma et al. [2015:2], uses "race as a physical category…to justify (and understand) the social categorisation of people in a given society". Racism is "a specific kind of racialised system of meaning . . . in which (implicitly or explicitly) physical 'racial' differences between groups are assumed to reflect internal (moral, personality, intellectual) differences, and that these

differences are organised both biologically and hierarchically, i.e., racist systems of meaning suppose that on the basis of genetic inheritance, some groups are innately superior to others'' [Edles, 2002:101 quoted by Skentny, 2008:65]. This is in line with Brunsma et al. [2015:2] suggestion that "race prejudice is more than just a set of personal feelings of one individual to another: race prejudice … [is] about group belonging". According to Brubaker et al. [2004:45], "race, ethnicity, and nationality exist only in and through our perceptions, interpretations, representations, classifications, categorisations, and identifications. They are not things in the world, but perspectives on the world - not ontological but epistemological realities''. This observation does not mean that racism is not real. Delgado and Stefencic [2001:7] remind us that race and races are products of social thought and relations [and] categories that society invents, manipulates, or retires when convenient. Furthermore, as Bonilla-Silva [2015:74] suggests, racism is embedded in society's structure; has a material foundation; changes and develops over different times; is often ascribed a degree of rationality and has a contemporary basis.

Direct discrimination happens when one is treated less favourably under one of the nine (Age, Race, Sex, Gender reassignment, Disability, Religion or belief, Sexual orientation, Marriage or civil partnership, Pregnancy and maternity) protected grounds in the Equality Act 2010. Indirect discrimination occurs when someone is treated less favourably, not necessarily because of discriminatory practices but because conditions imposed are harder to meet for one reason or another for an individual covered by the protected grounds. Discrimination by association occurs when someone is treated less favourably because of association with a person covered under the nine protected grounds. Discrimination at various levels and have several manifestations. Heckmann [2008: 36-38] broke down discrimination in following categories:

- Individual discrimination
- Subjectively perceived discrimination - reflect really occurring unequal treatment but could also rest on a false perception of the reality. Another interpretation could be that it is an expression of discontent with a situation.
- Conformity discrimination - unjustified unequal treatment of persons in individual, interpersonal relations, not because of prejudice on the part of the discriminating person, but because of conformity to discriminating social group pressure and to avoid negative social sanctions
- Opportunistic discrimination occurs in the belief that social recognition and acceptance for membership of certain persons would be detrimental to oneself or one's organisation because other people have a prejudice against these persons.
- Institutional discrimination - Rules and practices in institutions and organisations unjustly favour certain groups and are detrimental to others. Usually, the rules are such that majority groups with more power and prestige are favoured over minority groups.
- Denied support discrimination - some disadvantaged groups in a society may be in such a vulnerable position that they cannot improve their lot based on their resources … 'Denied support discrimination' refers to the denial by the political and civil leadership of societies of support for individuals and groups with little economic, cultural and social capital, who cannot improve their lot on their own to achieve a situation of equal opportunity in the societal competition for positions, resources and status.

The experiences discussed by participants in our study about racism and discrimination included: living in or around xenophobic communities, racist or discriminatory remarks, over-visibility in non-diverse environments, as well as community with other diverse students. Participants also spoke of learning analytics (one of the technologies used to understand the awarding gap at The Open University) as employing the use of AI and the potential biases that come along with these types of techniques. As with other codes, there are crossovers between this code and Immigration Experiences and University Relations, but this code refers to experiences of racism, discrimination and marginalisation, outside of the

institution, that are "brought in" to some learners' experiences in the classroom and that have an impact on the awarding gap.

The two primary themes around racism and discrimination in the milieu are:
1. Experiences of racism and discrimination impact students and educators in many ways, emotionally, professionally, personally. Reactions to challenges that diverse communities experience from White people around them are not insignificant.
2. White educators and students are also "learning" from these reactions (or non-reactions), and that impacts relationships within the University.

The primary take-away from this code for the purpose of data-driven approaches to understanding the awarding gap is this: **When we consider the disproportionate impact of the awarding gap on Black students, racism and discrimination play a role in each of the features discussed in this report (immigration experiences, cultural capital, family matters, socio-economic factors, and expectations of university relations) and must be considered an intersectional challenge.**

Early experiences of racism and discrimination

The external environment plays a vital role in the development of Black students long before they set their feet on a university campus. Ambition alone is not enough as the children engage in education. Parents, too, can do much to support their children's educational aspirations. However, early childhood experiences can potentially affect the awarding gap when the students eventually join institutions like The Open University at a later stage. Other disadvantaged groups may have similar experiences. Participants in the project made the following observations:

> *"He (Teacher on a TV programme) said this was in the United States; he said what they found was when they measured the attainment of young Black kids, they found, they were better than White kids at the same age, right, but somewhere between that and when they got into the latter part of what I would consider the secondary school that gap got wiped out and then became negative."* *(Student 2).*

> *"There is an overarching belief that [they] are lazy, that [they] are uneducated. There is something negative within education about Black people."* *(Educator 4)*

> *"Students are carrying and dealing with, you know, students who are Black, particularly, are always carrying stuff. Still, it's become part of our experience that we are carrying stuff in the society … an additional burden to bear. If you already feel that you don't belong in the organisation, if you feel like you have no one to speak to … this is really heavy, and that really throws off your concentration, that can throw off your motivation if you are in a predominantly White environment, it can make you feel you are even less likely belong. So I think within the mind, this is the most challenging year, and then life stuff bleeds into it."* *(Educator 4)*

Not all the experiences inside the universities before coming to The Open University nor in the communities they lived while studying at previous universities were positive. As one participant notes:

> *"It was more the social surroundings of the university … how shall I say it?...social difficulties surrounding being outside of the university's own place, so if you walked down the streets and you were a Black guy in the middle of the night there was a stronger possibility you could get arrested*

for some s*** or, excuse French … I would have said it was more of the issues surrounding what sat outside of the university as opposed to what sat within its own place." (Student 2)

Racism and discrimination on the labour market

Some students and educators in the study remarked that effort in the classroom is not going to be matched with employment opportunities. This should be taken into consideration when developing solutions to the award gap, to understand how the value for money is experienced by students from diverse backgrounds. The study participants share the following experiences:

"From a perspective, the White people may always feel okay, and opportunities are always there. So whether they go to school or don't go to school, they will see it, you know, chances of getting jobs and getting whatever they want, [un]like the Black community." (Student 4).

"I think the White person knows that regardless of whether they're educated or not. They can get a job anywhere. But Black people, without this, we can't get into the, you know, the kind of jobs we want to get. So you can, you know, in the professional sector, you see White people with little or no education managing Black people with a lot of educational qualifications. So I think the White people knowing they have that power makes it less important to them, but the Black person knowing that you have fun that you've kept, you know, you've taken out in year one you have to pay whether you attend you complete or not. That was the motivation to complete it because otherwise, our funding is lost." (Student 5)

"I'm already at a disadvantage because I am Black so to speak, but then my degree doesn't get me through the door as well." (Educator 1)

Diverse Learner Communities

The importance of having diverse learner communities is not only in relation to representation for the student themself, but also for other students and for educators as well. Diverse students can "stick out" to their educators, as this quote described:

"Inside of the university fair, it wasn't bad, except on one occasion when a lecturer said, oh, I've handed out some stuff, and people said no, he didn't. He looked at me and went, 'you were there' and obviously because I was the only Black person in the class, but other than that, it was okay." (Student 2)

Students are also enriched by having many different types of learners represented in their classroom.

"I have got university friends who are still very good friends today, one of them is Chinese, one of them is Norwegian, and when I mean we are very close, we are very close." (Student 2)

Learning Analytics and Bias in AI

Participants in the study observed the danger of using artificial intelligence to profile students who might need help to get better results. They warned of the dangers of reinforcing stereotypes and prejudices while addressing the awarding gap. This was in relation to the focus group stimulus of analysing error rates for Black and Asian students. The following quotes highlight the dilemma:

"Then you have also got as you are talking about stereotypical images of stereotypical perceptions on what you think a particular ethnicity is doing, so does it reinforce somebody's negative aspect of it but also it could be seen as does that incline to push this tutor to do more support work, but then the flip slide is that they then contact the student and the student is going well I'm fine, I'm okay … a deficit model in the sense that it is a deficit against a particular ethnicity then whatever data you are feeding in from that into the algorithm is always going to be from a negative standpoint … the algorithm itself has data that is already a negative set of data, so it can't produce data that is neutral so to speak." (Educator 1)

"I don't know the statistics, but I do know that, for example, young Black boys go into education high in academic achievement and then come out as one of the lowest. So there is an awareness that something happens in the education system, and the way Black students are regarded sometimes compared to White students is maybe passive kind of aggressive. I think all the learning difficulties like neuro-diverse challenges are not picked up in the same way with Black students as they are with White students. So often, they can be seen as being aggressive and not engaged, and all of those experiences can impact what happens later in life in terms of your relationship to education, your confidence in education, and how you feel about your ability." (Educator 4)

Dealing with racism and discrimination as a feature of the awarding gap
In terms of how The Open University handles racism and discrimination, participants were clear that the expectation is toward real change, at the very least within the University. A commitment to stamping out racist abuse immediately, to providing quality training to staff, but crucially - ensuring that the competencies and lived experiences of staff who understand marginalisation are appreciated, valued concretely and developed.

4 Impact

4 a) Student experience

The activities of the project are directly related to increasing chances of student success and generating the evidence of what might work. The study related to using OUAnalyse provides evidence of this on 3 STEM modules, increasing students chances of passing and having higher scores, especially for students from lower IMD.

The quantitative and qualitative analysis may not have a direct impact on students other than those who participated in the study, but it is expected that it will inform understanding of The Open University staff, leading to a subsequent impact in the next few years.

4 b) Teaching

Launching this project encouraged us to think of other ways we might support Black Students at The Open University and helped us to recognise the need to have more information about our students' diverse needs and life circumstances. As we are an institution that prides ourselves on accessibility, we want to extend this further into our practice.

The focus groups gave educators the opportunity to share their insights and experience with a larger audience. In addition, the papers we have published on our research can support other institutions looking to adopt large scale learning analytics to consider the impacts and benefits of learning analytics for different student groups.

4 c) Strategic change and learning design

The results of this project were presented at an internal group for Access, Participation and Success (APS) at The Open University, providing evidence of using a predictive learning analytics tool to decrease the awarding gaps. In addition to the student-led approach that is being taken into action via PLA (personal learning advisors), predictive learning analytics advocates for active engagement initiated by teachers (ALs), providing the necessary bookends to improve learning experiences. We also provide evidence to other stakeholders on the benefits of predictive analytics, before piloting this approach as part of the APS activities. This does not relate to STEM only. On the contrary, the highest interest comes from FASS and FBL, for example an APS lead in FBL.

4 d) Any other impact

The research and the results of this project led to securing another internal grant under the Test and Learn. The quantitative report provides several recommendations, some of which we will explore in the subsequent project.

1. **Provide support at the beginning of the modules** - especially focusing on the financial aspect and the situation around the study loans, consider also replicating the motivational intervention [Herodotou et al., 2020]. In this report, we have not analysed how many of them start again in the following presentation (i.e., starting in B rather than in J). This might be another exciting avenue to explore because Black students with previously failed attempts have higher chances of reaching FLP1.

2. Provide **continuous student support throughout the module duration**, e.g., via predictive analytics. The latest paper showed the benefit of decreasing the gaps, especially for lower IMD students, in three 19J modules at STEM [Hlosta et al, 2021]. The interventions were specifically focused on students predicted as at-risk of not submitting the TMA, but also on students predicted to fail or achieve low TMA grades.

3. Following the previous point, start a discussion at The Open University of how to extend the usage of **OUAnalyse for predicting TMA submission and TMA grades**. Some faculties did not allow this due to issues around the self-fulfilling prophecy. However, we need to understand that the model might not address the awarding gaps of Black students, as the gap is often on the lower grade level rather than the risk of TMA submission.

4. Perform the planned **qualitative interviews with students from Black, Asian and Minority Ethnic backgrounds,** discussing some of the identified patterns.

5. Perform a follow up in-depth analysis o**f why the gaps are high already in the first TMAs**. In particular, investigate 1) how much of the gap can be attributable to the student background and 2) how much design of the assignments or the materials can contribute to these gaps. This analysis should also try to incorporate some factors, like joining the access modules as possible, help to bypass the gaps at the start of The Open University study.

6. Look closer at all TMAs and iCMA and understand **which TMAs and modules have lower or higher gaps.** Identifying features of modules with low gaps might reveal other possible strategies to decrease these gaps. Investigate whether the gaps are the same for iCMA as well as TMA. If the gaps for iCMA are much lower, this might mean that different delivery of the assessments has a different impact on students.

7. Perform the analysis of **learning gains inside the modules.** This might help to understand why the gap is not decreasing towards the end of the module. On the contrary, it is getting larger. Again, performing this analysis on a large scale can identify modules where the gap decreases compared to modules where it is increasing.

5 Conclusions

Temporal aspects of the awarding gap

Overall, both the **quantitative and qualitative analysis** suggest that the resulting gaps are associated with many partial and accumulating gaps rather than by the existence of one single factor. However, the fact that these gaps are already high at the start of the Level 1 modules, even for new students, shows where we should focus our following analysis.

Qualitative aspects of the awarding gap

The **Qualitative analysis** revealed that more research is necessary to further pick apart the experiences of Black students from an **intersectional perspective**. Black students are not a monolith, so the reasons for the awarding gap are also likely to be different, depending on the different challenges that diverse students experience. This will take further qualitative assessment, as these more fine-grained details are not as easy to uncover using large scale learning analytics. However, some very **specific characteristics of the awarding gap** can be investigated using large scale learning analytics like OUAnalyse. For example, future research using OUAnalyse will examine why some assessments have higher gaps than others and identify the common characteristics of these assessments.

Our **analysis of student reactions** to the awarding gap and their relationship to the University indicates that students may be **avoiding contact** with tutors or **feeling ambivalent** about the support they receive. There is some **lacking trust** that the organisation will be equipped to handle their specific needs. However, on the occasions when students do have positive interactions, these are important, memorable and appreciated.

In terms of **immediate responses**, our participants felt that supporting **contact with students**, providing more avenues for **targeted, personal (human to human) support** and improving **representation of diverse staff** will better situate The Open University to collect the necessary insights about intersectionality and the awarding gap, and devise more culturally aware and sensitive solutions to reducing the awarding gap.

With regard to more practical issues, our research showed that **financial burden** is a major factor in student withdrawal, but family **responsibilities and commitments** arising from different **cultural expectations**, **immigration experiences**, or other **socio-political factors (such as racism and discrimination)** reduce the amount of time that some students have to devote to their studies. This is why the flexibility of the OU is described as a "must-have" for some of our students, rather than a "nice-to-have". The goal of providing flexible learning may need to be operationalised once more to really consider which University policies could best support students who carry a heavy burden in the household. The experiences described by participants around the circumstances of **COVID-19** that may have given them more time, space and money to focus on education are evidence of this.

Learning Analytics for Equality, Diversity, Inclusion and Accessibility

Using OUAnalyse can increase pass rates and student overall scores, with **higher impact on students coming from deprived areas** (i.e., lower IMD), and most likely also for students designated as Black, Asian and Minority Ethnic. This was one of the more critical questions that this study intended to examine. One of the advantages of automating some processes is that some **historic and social biases can be more easily identified**, when we analyse how such models work. In addition, **OUAnalyse prompts targeted action**, which was identified in our study as an approach that works for both students and educators - when the data collection and the automated system is appropriately resourced.

Predictive models are not absolutely fair, they are slightly more accurate on White ethnicity and for Black students tend to predict more often that they will not submit than they do. In our study, most participants felt it was **more risky to potentially miss students** who need help than to over-predict. This suggests that removing ethnicity from predictions may not be desirable, but more research is needed. Even if ethnicity does not appear to influence the process of prediction, however, our study indicates that it is important

to consider **how the predictions will impact students of diverse ethnicities**. For example, while our study indicated that ethnicity is not as important for TMA submission prediction, it will be important to evaluate potential problems and challenges in predicting TMA scores.

List of deliverables

[1] Bayer V., Hlosta M., Fernandez M. Learning Analytics and Fairness: Do Existing Algorithms Serve Everyone Equally? AIED 2021; 22nd International Conference on Artificial Intelligence in Education, 14-18 Jun 2021, ONLINE from Utrecht.
Accepted in AIED'21 conference and presented virtually in June 2021 – the paper mostly tackles wether existing algorithms to identify students at risk within the OU work equally effectively for the majority and minority groups, where groups are defined considering gender, ethnicity and disability.

[2] Hlosta M., Herodotou Ch., Fernandez M., Bayer V. Impact of Predictive Learning Analytics on Course Awarding Gap of Disadvantaged students in STEM AIED 2021; 22nd International Conference on Artificial Intelligence in Education, 14-18 Jun 2021, ONLINE from Utrecht.
Accepted in the AIED'21 conference and presented virtually in June 2021 – the paper captures the impact that OUAnalyse made in 3 STEM 19J modules, especially lower IMD students.

Figures and tables

Figure 1 - Awarding Gap for Level 2 and 3 modules
Figure 2 - Awarding Gap for Level 1 modules

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University approval processes
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