Addressing the Attainment Gap: Investigating Gaps in Personal Tutoring Provision

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Abstract

The department of Biochemical Engineering, UCL, is one of the smallest departments in the faculty of Engineering Sciences, with an average annual intake of approximately 40 undergraduate students on the BEng/MEng programmes. Of that intake, around a third tend to be home students and of that, 40% identify as BAME (black and ethnic minority). With such small numbers, the attainment gap has been seen to fluctuate largely, demonstrating inconsistencies year on year. With relatively high staff to BAME student ratios, it begs the question - can greater staff effort help close the attainment gap consistently? A number of reports have shown the link between inclusivity through personal tutoring and student performance so this project investigates departmental personal tutoring provision, specifically aiming to see if there are any gaps within it that can be bridged through mechanisms that include upskilling personal tutors and cohort building for peer support and finally, its link to academic performance. It uses a phased approach: Phase 1 – survey data collection reflecting student perceptions on personal tutoring. Phase 2 – focus groups/interviews with BAME students. Phase 3 – observations of external practices. Phase 4 – upskilling of personal tutors and observing academic performance. The project is currently coming to the end of phase 1 and so far results indicate that rapport building and reviewing of academic results with personal tutors are desired by the collective cohorts. Phase 2 will look more specifically into the needs of BAME students as a means to address the attainment gap.

Keywords: BAME Attainment Gap, Personal Tutoring, Engineering Education

Introduction

The BAME attainment gap refers to the disparity in academic achievement between students who identify as Black, Asian, and Minority Ethnic (BAME) and their White counterparts within the education system (Rana, Bashir, Begum, & Bartlett, 2022). This gap is observed in various educational levels, from primary and secondary schools to colleges and universities. The significance of the attainment gap lies in its broader implications for individuals, communities, and society as a whole. According to a report published by The Social Mobility Commission (UK Government advisory group) in 2016 (Shaw, Menzies, Berardes, & Baars, 2016), there are 7 main areas of impact:

1. **Equity and Social Justice:** The attainment gap reflects underlying systemic inequalities in educational opportunities and resources. It can perpetuate cycles of disadvantage and limit social mobility, creating a lack of equal access to the benefits of education. Addressing the attainment gap is crucial for promoting social justice and equal opportunities for all students.
2. **Economic Impact:** Disparities in educational attainment can lead to differences in employment opportunities, income levels, and career prospects. This, in turn, affects economic productivity and contributes to broader income inequality in society.
3. **Educational System Effectiveness:** A significant attainment gap indicates that the education system is not effectively providing equal learning opportunities to all students. This could be due to various factors, such as inadequate resources, biased teaching practices, or lack of support for marginalized groups.
4. **Diversity and Representation:** A diverse and inclusive educational environment benefits all students by exposing them to a variety of perspectives and experiences. When certain groups consistently lag behind, this diversity and representation are compromised.
5. **Long-term Social Impact:** The attainment gap can perpetuate intergenerational cycles of disadvantage. If parents from marginalized groups have limited access to quality education, it can affect the educational outcomes of their children, leading to a continuing cycle of underachievement.
6. **Civic Participation and Social Cohesion:** Education plays a crucial role in preparing individuals for active citizenship and meaningful participation in democratic societies. When certain groups are consistently excluded from educational opportunities, it can hinder their ability to engage fully in civic life.
7. **Global Competitiveness:** In an increasingly globalized world, countries that do not address their attainment gaps may struggle to compete on the international stage. A well-educated and skilled workforce is vital for innovation, economic growth, and maintaining a competitive edge in the global economy.

Addressing the attainment gap requires multifaceted approaches that encompass policy changes, resource allocation, teacher training, curriculum reform, targeted support for marginalized groups, and efforts to create a more inclusive and equitable learning environment. Recognizing and addressing the significance of the attainment gap is essential for creating a fair and just society where all individuals have the opportunity to reach their full potential.

The BAME attainment gap is widely accepted to exist and as such this element will not be debated or evidenced in this section. Instead, the focus will be on addressing the potential causes. There is a focus in this intervention on co-creation (between staff and students) and assessing whether there is a cultural aspect to the differential in attainment. Below, the

context around UCL's and the faculty BAME attainment gap lead's positions on the attainment gap is outlined:

- UCL has committed to eradicating the awarding gap, but from a standpoint that doesn't imply or utilise a student deficit model.
- The wider understanding is that research and interventions that centre on the BAME community, should be led from within that community.
- From 2015 to date the awarding gap within the department has fluctuated, between 13 & 8% (whilst the faculty fluctuates between 4 & 10%) the variation is to be expected in a small department, but its presence is why this warrants investigation.
- During the scale up and scale out phases in years 2 and 3, we will be able to address the issue across the faculty and, if there are other groups willing to share best practice, across the institution.
- Personal tutoring can help (as evidenced by Rogerio, 2019 and Groves & Burden, 2017 from Hertfordshire and Kingston universities respectively). However, these bodies of work enhanced personal tutoring, without considering issues of culture or recognising and rewarding differential social and/or cultural capital, which this intervention would seek to do. One area in which the previous work was successful was in recognising that personal tutors are not able to fulfil all the needs of a student, and where this work would expand on that would be to seek to fill those gaps with more than signposting to other resources.
- The focus on 'cultural competency' is due to the need to scale out the work, as while Biochemical Engineering is diverse in both student and staff populations, the entire faculty is not. An example of this is there is there is only 1 member of black academic staff in the faculty. Whereas 222 identify as BAME out of 890. These statistics show that there is a potential need for culturally sensitive, specific and competent support.

This project aims to reduce the rewarding gap by increasing both inclusivity within the department, but also the sense of belonging within the department/faculty/institution. Improving personal tutoring would enable students to be their entire authentic self within the institution. The project aims to initially reduce the awarding gap within the department through the creation of more competent support structures, but also to create a scalable system that could be applied across faculty/institution. It will take a student-centred approach and focus on specific student support mechanisms, as is highlighted in various bodies of work. The extension this project will have is to ensure that the difference between the demographic of the student and staff body is addressed and cultural competence is ingrained in part of the intervention that is co-designed.

Aims and Objectives of This Study and Methodological Approach

The department of Biochemical Engineering, UCL is one of the youngest (est. in 1998) and smallest departments in the faculty of Engineering Sciences, with an average annual intake of approximately 30 undergraduate students on the BEng/MEng programmes (pre-pandemic figures). Of that intake, around a third tend to be home students and of that, 40% identify as BAME (approx. 13% of entire cohort). With such small numbers, the attainment gap has been seen to fluctuate largely, demonstrating inconsistencies year on year. With relatively high staff to BAME student ratios, it begs the question - can greater staff effort help close the attainment gap consistently? Whilst literature shows that there are a number of indicators of academic performance such as student achievements/awards, academic disciplinary record, attendance and engagement, modular marks and feedback and degree classification, this study largely focuses on modular marks and feedback and degree classification outcomes. An

example of disparities in degree classifications between BAME and non-BAME students can be seen in cohort years 2019-2022. Across the 3 year programme there was an average of an almost 10% difference in average module marks, meaning non-BAME students largely graduated with a first-class degree whilst BAME students graduated with a 2:1. Such statistics reveal a need for action in this area.

This project will investigate the personal tutoring provision within the biochemical engineering department, specifically aiming to see if there are any gaps within it that can be bridged through mechanisms that may include - upskilling personal tutors, cohort building for peer support, creating of a 'super tutor' for specific demographic groups.

By so doing, these gaps may reveal aspects that may limit the inclusivity and full integration of BAME students, thus limiting their academic potential. This project aims to investigate this by doing the following:
1. Gain an understanding of BAME students' perspectives on the gaps that exist that prevent full inclusivity and its link to academic performance
2. Review the data with departmental personal tutors and collate feedback on how to address concerns raised
3. Implement relevant strategies e.g. training of personal tutors, instate a 'super tutor'
4. Review the impact of the changes made by speaking to BAME students and reviewing academic performance

At the point of writing this paper, a survey had opened carried out to address point number one of the aims. The survey, in the first instance, was open to all students regardless of ethnic background in order to prevent biases in responses. The thinking behind having the survey open to all students is such that during data analysis, patterns in responses may (or may not) be observed in accordance with students' backgrounds. The survey has attained approximately a 25% response rate with 31 students in years 2, 3 and 4 participating in the study thus far. A short survey comprising of 6 questions was designed to gather information and patterns in responses related to perceptions of the department's personal tutoring provision (see table 1). The options presented for questions 1, 2 and 5 were obtained from UCL's personal tutoring guidances as well as a collation of literature-based findings.

	Questions	Possible responses
1	What do you think are the essential elements of Personal Tutoring? (Select all that apply)	Academic support, offer support/advice for physical wellbeing, offer support/advice for mental wellbeing, help navigating university systems, careers advice, act as a referee, open communication, open availability, setting goals and challenges, other
2	Which of these does your personal tutor do for you? (Select all that apply)	Same as Q1 options
3	Has the Personal Tutoring you are receiving changed over the time you have been in the department?	Yes/No

4	If you answered yes to Q3, in what way?	Open-ended
5	What parts of Personal Tutoring do you think aren't needed for you? (Select all that apply)	Same as Q1 options
6	What would you add to the Personal Tutoring in year 1, 2, 3 (and 4 if applicable)?	Open-ended

Table 1 – Survey questions

Results & Discussion – Survey Analysis

1. What do you think are the essential elements of Personal Tutoring at UCL?

More Details

- Offer support/advice for mental ... 23
- Academic support 22
- Helping you reach goals/objecti... 25
- Providing passion and inspiration 7
- Role modelling 6
- Help navigating university syste... 17
- Careers advice 21
- Act as a referee/provide referen... 21
- Offer support/advice for physica... 3
- Open communication 18
- Open availability/approachability 20
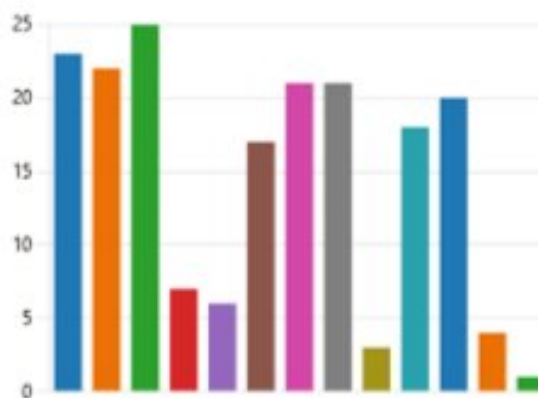- Setting goals and challenges 4
- Other 1

Figure 1 – Bar graph showing most essential elements of personal tutoring according to students in Biochemical Engineering, UCL.

Whilst Figure 1 demonstrates that the top 3 most essential elements of personal tutoring as voted for by the students are – (1) Help in reaching goals/objectives related to career or academic pursuits, (2) Support for mental wellbeing and (3) Academic support, figure 2 demonstrates the top four responses to 'which of these does your personal tutor do for you' to be – (1) Help navigating university systems, (2) Providing references, (3) Mental wellbeing advice, (4) Open availability. The results seem to show a discrepancy between what students perceive to be the most essential elements of personal tutoring and what elements of personal tutoring they actually receive. A study conducted by Calabrese et al., 2022 discusses the widespread differences between students' expectations of personal tutoring vs the personal tutoring they receive and how this affects factors such as student success, student retention and student perception and experience which feeds into National Student Survey (NSS) scores. Whilst the research does acknowledge the link between institutional systems such as

personal tutoring and the success of certain student groups such as those with mental health issues, physical disabilities etc. There is no mention of the link to BAME students and the attainment gap (a prevalent issues in most institutions). Given the widespread acceptance of the impact of personal tutoring on student success, more research is needed on how this impacts BAME student success.

Question 3 responses indicate that the majority of students (74%) feel that personal tutoring provision has not changed during their time in the department, whilst 16% of respondents felt the opposite. Question 4 looked to understand what it is that has changed and respondents reported on an increase of support during the pandemic as well as an increase in support during their final year of studies. Whilst this is expected, given the circumstances presented as a result of the pandemic, it does highlight differences between support provided for different year groups. The results and literature seem to indicate that support is heavily provided for first year students settling into university (Grey & Osborne, 2018) and final year students looking to graduate and start work, implying a dip in support for second year students. This would be an interesting space to explore and it could imply that the type of support needed for second year students is different to that of first year and final year. Further studies are needed to first ascertain the type of support second year students need and then how personal tutors can assist.

2. Which of these does your personal tutor do for you?

More Details

|	
● Academic support	8
● Offer support/advice for physica...	4
● Offer support/advice for mental ...	11
● Help navigating university syste...	17
● Careers advice	8
● Act as a referee/provide referen...	14
● Open communication	10
● Open availability/approachability	11
● Setting goals and challenges	3
● Helping you reach goals/objecti...	8
● Providing passion and inspiration	3
● Role modelling	4
● Other	4
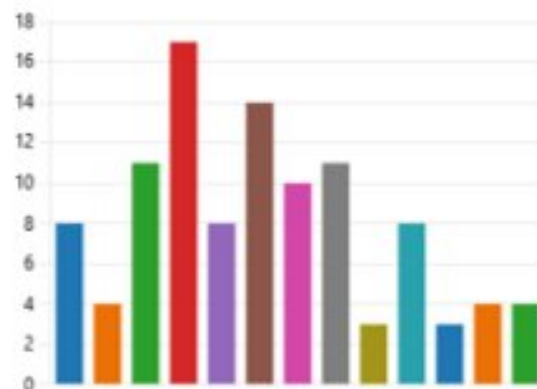
Figure 2 – Bar graph showing results of survey question 2
– Which of these does your personal tutor do for you?

5. What parts of Personal Tutoring do you think aren't needed for you?

More Details

- Academic support — 3
- Offer support/advice for physica... — 10
- Offer support/advice for mental ... — 5
- Help navigating university syste... — 4
- Careers advice — 3
- Act as a referee/provide referen... — 0
- Open communication — 0
- Open availability/approachability — 1
- Setting goals and challenges — 7
- Helping you reach goals/objecti... — 4
- Providing passion and inspiration — 7
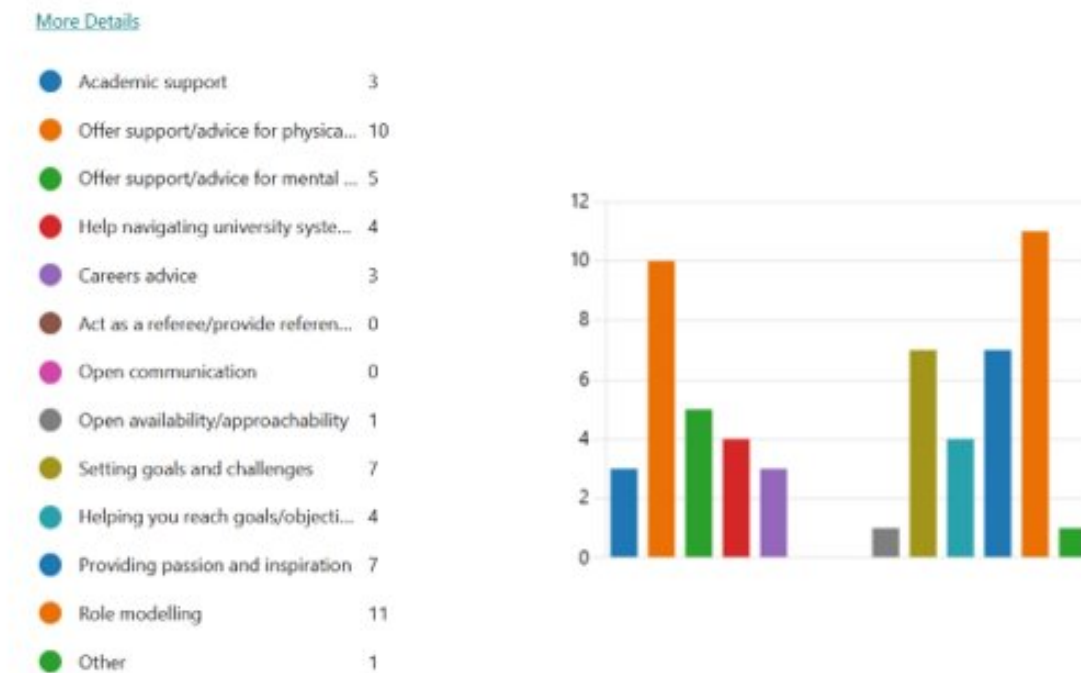- Role modelling — 11
- Other — 1

Figure 3 – Bar graph showing responses to survey question 5

Figure 3 shows that the top 4 elements of personal tutoring students felt weren't needed for them were – (1) Physical wellbeing support, (2) Role modelling, (3) Setting goals and challenges and (4) Providing passion/inspiration. Whilst it is not entirely surprising that physical wellbeing support was voted least needed by students, it is somewhat surprising that elements such as role modelling, setting goals and providing inspiration were also voted as not needed. This could be due to factors relating to how students view personal tutors in relation to their own life aspirations. It could also be due to a lack of 'buy in' of personal tutors, leading to a lack of quality in personal tutoring by staff. This perspective is supported in a study conducted by Ghenghesh, 2018. A solution proposed was to replace the current system with a personal tutoring unit within each faculty/department. The idea is that this unit works together with existing institutional systems to support e.g. students with learning difficulties, students requiring mental health support etc. One thing to note about this study is that relative to UCL, The British University in Egypt (where this study was conducted) is newly established (since 2005) with a vastly lower number of annual student intake, suggesting that major changes to institutional academic practice/pastoral care would be easier to implement.

Question 6 sought to understand how personal tutoring could be improved and an overwhelming majority of student responses centred on wanting more regular and more structured meetings. This seems to be a common response from students across the country. Wakelin, 2021 conducted a study at Nottingham Trent University's Law School into ways to improve personal tutoring in which students' perspectives were sought on the weaknesses of personal tutoring in their school. Students reported on the lack of clarity or purpose of personal tutoring meetings, indicating the need for more structure in these meetings. The study revealed further interesting findings including ambiguity in the role of personal tutors, which aim number 3 of this study looks to address in the subsequent phase. What literature has shown is that there is room for improvement in personal tutoring across a number of

institutions which may be solved by national collaborations rather than solely relying on local fixes.

Conclusion

Whilst the survey results were generally helpful in providing an insight into student expectations vs student perception of personal tutoring as well as corroborating a number of findings in literature, it was a challenge to pick up on nuances pertaining to BAME students. This could also be partly due to the low sample number at the point of writing this paper. The next phase of the study involves conducting interviews/focus groups with BAME students so this endeavour should provide a better insight into their experiences and its relation with their academic success. The next phase of the study also aims to explore where personal tutoring practices are done better in other parts of the institution and how it compares with best practices reported in literature by other institutions. The UKAT annual conference presents as a good opportunity to observe best practice across a number of institutions nationally and may provide opportunities for collaborations.

Acknowledgements

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