**1. Introduction**

During a series of interviews by the Department of Bioengineering on intercultural competence, it was noticed that some international students experienced some academic difficulties with their course. It was hypothesised that such problems might stem from the transitioning process during their first year at Imperial. The Department of Bioengineering teaches 2 courses, Molecular Bioengineering (MBE) and Biomedical Engineering (BME). From 12 July to 9 August 2023, I helped Dr Maria Parkes and Julie Hoang, the department's learning technologist, with investigating the transitioning problems international students at Imperial might face. By the end of the UROP we expected to have created some resources that would help students, international or not, in settling into their courses. International students in this study are students who did not have pre-university education in the UK.

**2. Literature Review**

There exist 3 key challenges that international students tend to face (Ecochard, 2017):

|  |  |  |
| --- | --- | --- |
| Academic Challenge | Linguistic Challenge | (c)Socio-cultural Integration |
| Becoming aware and accustom themselves to different teaching practices and dynamics in the UK, such as questioning, criticising and debating in the context of education which requires more independent thinking. | Understanding the difference between taught and colloquial English used in the UK, including the unique variety of accents and idioms. Understanding this helps with effective communication. | Culture shock involving learning to navigate a new country with different customs and culture altogether such as weather or food choices. This includes feeling homesick & lonely. |

These 3 challenges are also connected. Not being familiar with the local language/accent makes communication challenging for the international student both in academia and outside the classroom. Majority of international students in the UK are from China (Holliman, 2023), a country with a different education system to the UK. While education in China seems to give teachers the role of bestowing factual knowledge onto students (Wang, 2023), education in the UK encourages students to form their own independent thoughts through debating and questioning knowledge with their teachers (Chen, 2022). This difference in academic culture does not prepare international students from China for education in the UK, exacerbating their academic struggle. International Black African students and students from China have both stated that there is greater emphasis on independence in UK universities compared to their home countries in interviews (Hyams-Ssekasi, 2014). For some international students, they may face the additional financial challenge of getting funded in time and managing their own finances. These are all recurrent challenges internationals face (Holliman, 2023). Efforts to ease these challenges would involve addressing the above problems directly or indirectly.

It is not uncommon to see international students of similar culture or background to congregate together for emotional or spiritual support (Hyams-Ssekasi, 2014), instead of mixing with local students. Intermingling of local and international students tends to be viewed positively by the host community. This improves language skills, cognitive skills and cultural awareness of both the local and international community which should be encouraged by universities (H.Merola, 2019). Local students could also guide internationals through local norms and culture (Ecochard, 2017). Differences in moral and cultural values or habits, however, can create distance and even cause undesired conflict. There exist anecdotes from some internationals experiencing coldness or feeling unwelcome by the local community in and outside the classroom (Bailey, 2006).

International student support services exist at Imperial College London (Imperial College London, 2023). Some international students, however, might be hesitant to reach out due to personal, cultural or moral reasons (Hyams-Ssekasi, 2014). It might be more beneficial to provide resources for internationals to help themselves instead or find ways to ease them into the local community such as promoting opportunities for interactions between locals and internationals.

In conclusion, international students in the UK face challenges not limited to familiarity of language, academic style differences, cultural and social integration, homesickness, and financial matters. Although there is some level of international student support at Imperial College London, it could be improved by facilitating local and international student interactions, or other ways to help international students integrate into the local community.

**3. Methodology**

Literature Review; Online Survey and Interviews; Qualitative & Quantitative analysis

During the first meeting with Dr Parkes and Ms Julie Hoang, we decided to begin with a literature review. This provided an understanding of what other researchers have concluded during their own investigation on international students. Most of these papers utilised interviews and qualitative thematic analysis to find overarching themes that reappear among interviewees’ comments.

By classifying these challenges into question categories, an online survey form on Microsoft Forms could be created to determine whether they align with student experiences in the Department of Bioengineering. Microsoft Forms was chosen for its integration into the Microsoft Ecosystem. This was an appropriate method to gather data as this investigation took place during summer break. Most students were not present on campus during this period and many international students had flown back to their home countries. With an online survey, it would be simple to implement with no financial cost and respondents can fill it up remotely in their own time. The survey was distributed by email. Through the online survey, hopefully interested individuals would agree to follow-up interviews or discussion groups to gather more details of the issues they experienced. The online survey also included local students as it could serve as a secondary platform for all students to express any issues with the course. Adding a filtering question to differentiate between local and international students was included.

From the feedback and data, resources would be developed for the benefit of incoming bioengineering students.

**4. Results**

***4.1 Literature Review Findings***

My literature review identified 3 main challenges that international students face in transitioning to the UK tertiary education system: Understanding the local language, accent and colloquialisms (Linguistic); Comprehending the academic style and adapting to it (Academic); Integrating themselves into the local culture and norms (Socio-cultural integration). There were an additional 2 challenges regarding managing finances in an area with a different cost of living (Finance) and managing feelings of homesickness and loneliness from being away from loved ones (Homesickness and Loneliness). This gives a total of 5 challenges internationals face. A minimum of 2 specific examples relating to each challenge mentioned were created as categories (i.e Communicating with teaching staff - Linguistic). They were then listed as options in a multiple-choice (multiple response) question for the online survey form. An additional sixth “Other” category was added to test if certain problems that do not fall into other categories would apply.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Socio-Cultural | Homesickness & Loneliness | Language | Academic | Financial | Other |
| Finding food I like/miss from home | Homesickness from being separated from family & friends | **Communicating with the local/international community** | Getting academic support from lecturers | Managing Finances | Adapting to university life in general |
| Understanding local norms and customs | Making Friends | Communicating with teaching staff | Understanding Course structure | Getting funds | Registering with a local General Practitioner (GP/Doctor) |
|  |  |  | Understanding how to approach my studies |  | Getting a UK Visa |
|  |  |  | **Finding sufficient resources to prepare for exams** |  |  |

**Figure 1.1**: Table showing the categories (first row, underlined) with their corresponding questions.

***4.2 Online Survey Results***

With a total of 15 questions and an average completion time of 4 minutes 9 seconds, the survey gathered 32 responses (22 MBE; 10 BME) in 7 days. This contained 25 first year students and 26 international students. Other questions enquire on the usefulness of suggested resources such as a summary guide, a glossary of terms for class and a food guide. The options of “Finding food I like/miss from home”, “Communicating with the local/international community” and “Finding sufficient resources to prepare for exams” had the highest counts of 13, bolded in Figure 1.1 above. This was question 6 in the survey form. 6 individuals initially expressed interest in a follow-up session, with 1 eventually redacting interest due to personal reasons. No respondents selected the additional custom option. Raw data in the Appendix

The list of questions was as such:

1. What year of university have you just completed?
2. State your course please.
3. Did you study in the UK before coming to Imperial?
4. Are you an international student?
5. Which country were you studying in before coming to Imperial? (Only for internationals)
6. Were any of the following an issue for you during your first year at Imperial (Multiple choice question formed from literature review)
7. Provide details on previously stated or any other issues you felt/had during your first year at Imperial (Open Ended question)
8. Have you used the following before?
9. Suggest something your department could do/have done to improve your university experience
10. Would a glossary of terms sheet help you with your course?
11. Do you think a Summary Course Guide might help?
12. Do you think a Food Guide might help?
13. Recommend places to eat in London if you’d like (Optional)
14. How much do you like your course (Rating question)
15. Please state your full name if you’re interested in a short follow-up session

***4.3 Follow-Up Sessions/Interviews feedback***

Of the 5 participants, 2 were local students and 3 were international (2 China; 1 Singapore). All one-to-one interviews were carried out and recorded online either on Microsoft Teams or WeChat. The questions simply asked interviewees to elaborate on their issues individually and to provide examples.

All 5 interviewees had an overall good experience during their first year and expressed that the summary guide showing course structure in a table would be very helpful. Both local and international interviewees expressed difficulty in meeting their lecturer in person outside of lectures or getting a response from them. Some internationals felt it was somewhat challenging to socialise with locals due to their accent while speaking English, speaking too quickly or they enter university having made friends already. This might make certain internationals feel excluded. For certain religious and/or financially conscious individuals, they feel that there should be more non-drinking and/or free events available. This would help them socialise better since they cannot drink or are not in the financial position to do so. There were also suggestions on what to include in the summary guide such as London transport, banking, registering with a local general practitioner (GP) and perhaps advice on managing finances.

**5. Discussion**

***5.1 Interpreting the online survey results.***

The 3 most prevalent issues identified in the online survey (section 4.2) fall under the 3 main categories of ‘socio-cultural integration’, ‘language’ and ‘academic’, which is consistent with the literature review. To rank the categories based on numbers however, an average tally per question in each category could be calculated since not all categories have the same number of questions (4 questions under Academic; 3 under Other; 2 under the rest).

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Category Name | Socio-Cultural | Homesickness & Loneliness | Language | Academic | Financial | Other |
| **Total Count** | 16 | 14 | 24 | 41 | 9 | 16 |
| **Total Count (without local students)** | 16 | 11 | 16 | 30 | 6 | 13 |
| **No. of Questions** | 2 | 2 | 2 | 4 | 2 | 3 |
| **Average (all students)** | 8 | 7 | 12 | 10.25 | 4.5 | 5.33 |
| **Average (without local students)** | 8 | 5.5 | 8 | 7.5 | 3 | 4.3 |

**Figure 1.2**: Table showing average count per question with and without local students.

By first considering all 32 respondents, the “Average (all students)” row in Figure 1.2 was calculated by dividing the “Total Count” by the number of questions for each category. From this numerical measure, issues under the Language category, would be the most significant factor that affects students in the Department of Engineering at Imperial College London. This is followed by the categories Academic, Socio-Cultural, Homesickness & Loneliness, Other and Financial in descending order of significance.

Similarly, for just the 26 international students, the “Total Tally (without local students)” row was divided by the corresponding number of questions to give the “Average (without local students)” row. From this measure, one might say that both the “Language” and “Socio-Cultural” issues are equally significant in affecting international student experiences in the Department of Bioengineering. The Academic category came in as a close second followed by the “Homesickness & Loneliness”, “Other” and “Financial” categories in descending order of significance. For these numerical averages, weightings were not assigned to each question as they aren’t quantifiable.

Considering that Language, Socio-cultural and Academic issues seem to be most prevalent amongst international students, the idea of an informative summary guide might help them in their transition. Using a visual webpage on Microsoft SharePoint, phrased simple, would help to develop their academic and socio-cultural knowledge in the UK whilst practising their English.

***5.2 Interviews***

One-to-one online interviews were conducted instead of a discussion group for concerns regarding shyness and effective communication for some participants. 2 international interviewees were more comfortable speaking in Mandarin, to communicate their thoughts more accurately. The interviews for these 2 interviewees were thus conducted in Mandarin while the rest were conducted in English. Some interviewees were not comfortable in front of the camera, so all interviews were standardised as voice calls. In retrospect, however, letting those who were alright with being in front of the camera turn on theirs might have provided more information regarding their body language.

***5.3 Personal Reflection***

The literature reviewed helped me craft an idea of what previous studies investigating international students studying at UK tertiary institutions found out. To determine whether the 5 challenges mentioned in the literature aligns with what Bioengineering international students experience, a multiple choice, multiple response question was crafted using specific examples of each challenge. By using specific examples however, other examples that fall within the same challenge may be omitted. Although there was an open-ended box for respondents to add further details of the issues they faced, respondents might’ve been reluctant to type anything out of tedium. Perhaps simply asking whether their issues fell under one of the 6 categories might help. Considering the low interest (6 out of 32) for the follow-up session, however, more information might be missed out instead. For another study, perhaps sending out the survey during term time would result in more respondents and thus a better estimate of what issues most students face. Furthermore, specific examples may resonate with each person at varying degrees which could potentially cause an unintended bias in results. This may not make a comparison between different categories as reliable, however, it could identify an important issue that most students resonate with which is beneficial since those issues could be targeted immediately.

The interviews were structured in a standard way for all interviewees by asking them to elaborate on each issue they indicated individually. This allowed as much information as possible to be extracted about each issue they faced. In hindsight, perhaps more effort could’ve been put into asking more conversation starters to get the interviewees more settled in before commencing the interview. Seeing as how interviewees and survey respondents expressed a remarkable interest in a summary guide, more time could be put towards created an offline and online version of the summary guide for easier student access.

This UROP opportunity allowed me to practise some research skills such as doing a literature review to form a hypothesis, finding a way to collect data through an online survey and even put my linguistic skills to the test during interviews. I have learnt how to create and utilise several online tools such as Microsoft Forms, Microsoft Teams and even Sharepoint to create a webpage that will be used for the online summary guide. Furthermore, I have condensed bulk information into bullet points which should be simple for international students to interpret. The issues I flagged and faced during this UROP suggests room for improvement for international student support and how I carried out this research project.

**6. Conclusion**

In conclusion, through an online survey and several interviews, both international and local students seem to face more communication, socio-cultural and academic challenges during their first, transitioning year at Imperial compared to other challenges. International students specifically tend to face more socio-cultural and language challenges. These include, but not limited to finding sufficient resources to prepare for exams, communicating with the local/international community and finding food they like. A summary guide addressing these issues has garnered interest in both the survey and interviews. It would thus be the imperative that this summary guide be created for the benefit of the students in the Department of Bioengineering.

Future investigations could involve a similar study during term time for a better response rate or target individual years since each year may present specific difficulties. Additionally, the online summary guide information for the new bioengineering students could be expanded to students of all years. This way there will be an informative platform tailored to the needs of bioengineering students in a simple and fast way.

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**Appendix:**

**Survey Summarised Results:**

# Student Experiences at Imperial

32

Responses

# 04:09

Average time to complete

# Active

Status

1. A colorful pie chart with a black background

   Description automatically generatedWhat Year of University have you just completed?

|  |  |
| --- | --- |
| Year 1 | 25 |
| Year 2 | 2 |
| Year 3 | 4 |
| Year 4 | 1 |

1. A blue and orange pie chart

   Description automatically generatedState your course please

|  |  |
| --- | --- |
| MEng Molecular Bioengineering | 22 |
| MEng Biomedical Engineering | 10 |
| Other | 0 |

1. A blue and orange pie chart

   Description automatically generatedDid you study in the UK before coming to Imperial?

|  |  |
| --- | --- |
| Yes | 6 |
| No | 26 |
| Other | 0 |

1. Are you an international student?

A blue and orange pie chart

Description automatically generated Yes 26

 No 6

1. Which country were you studying in before coming to Imperial?

# 26

Responses

Latest Responses

*"China" "Botswana " "Spain"*

**Update**

**6** respondents (**25**%) answered **Singapore** for this question.

**Canada**

**italy**

**Greece**

**United**

**States**

**Singapore**

**America**

**C**

**Spai**

**Lithuania**

1. A colorful bars on a black background

   Description automatically generatedWere any of the following an issue to you during your FIRST YEAR at Imperial?

|  |  |
| --- | --- |
| Finding food I like/miss from ho… | 13 |
| Understanding local norms and … | 3 |
| Homesickness from being separ… | 8 |
| Making friends | 6 |
| Communicating with the local/i… | 13 |
| Communicating with Teaching S… | 11 |
| Getting academic support from … | 7 |
| Understanding Course Structure | 11 |
| Understanding how to approac… | 10 |
| Finding sufficient resources to p… | 13 |
| Managing Finances | 4 |
| Getting funds | 5 |
| Adapting to university life in ge… | 7 |
| Registering with a local General … | 7 |
| Getting a UK Visa | 2 |
| No | 2 |
| Other | 0 |

1. Provide details on previously stated or any other problems or issues you felt/had during your FIRST YEAR at Imperial (Admissions Process, Course Modules, University Life)

# 10

Responses

Latest Responses

*"Hard to make friend with local. Lots of racism"*



**Update**

**4** respondents (**44**%) answered **exams** for this question.

**Office were slow**

**online notes structures**

**hard**

**questions in exams**

**resit policy**

**module for MBEs**

**Dr**

**lectures**

**exams**

**different preparation for exa**

**revision ma**

**exa**

**practice questions**

**difficult**

**exam resources**

**home pe**

1. A colorful graph with black background

   Description automatically generatedHave you used the following before? Select if you have.

|  |  |
| --- | --- |
| Office hours for lecturers (an op… | 9 |
| Student Handbook & Regulatio… | 19 |
| Getting guidance or advice on d… | 17 |
| Language Support for all Imperi… | 3 |
| Union website listing all Imperia… | 24 |
| Imperial Health Centre GP/Doct… | 12 |

1. Suggest something your department could do/have done to improve your university experience.

# 31

Responses

Latest Responses

*"None"*

*"Better integration in online labs "*

*"Give a detailed explanation of the course structure from the …*

**Update**

**9** respondents (**30**%) answered **exams** for this question.

**course and how credits Exam/coursework classes before exams**

**clari**

**exam breakdowns exam styleexamscourse**

**exam papers**

**marking papers or ex**

**exam weeks**

**exams or la**

**exam datescurrent course**

**beginning style questions Course structurejunk**

**information about the c**

1. A pie chart with a few different colored sections

   Description automatically generated with medium confidenceWould a glossary of terms sheet (lists out keywords used in class) help you with your course?

|  |  |
| --- | --- |
| Yes | 23 |
| No | 3 |
| Maybe | 6 |

1. A blue circle with a green triangle

   Description automatically generatedDo you think a Summary Course Guide (Summarises Course Structure, using Blackboard, etc) might help?

|  |  |
| --- | --- |
| Yes | 29 |
| No | 0 |
| Maybe | 3 |

1. A colorful circle with a black background

   Description automatically generatedDo you think a Food Guide (Places to shop/eat) might help?

|  |  |
| --- | --- |
| Yes | 18 |
| No | 6 |
| Maybe | 8 |

1. Recommend places to eat in London if you'd like (Optional)

# 6

Responses

Latest Responses

*"Dozo"*

*"Da Mario, Al dente, Ben’s Cookies"*

**Update**

**1** respondents (**20**%) answered **food and a discount** for this question.

**Restaurant**

**K**

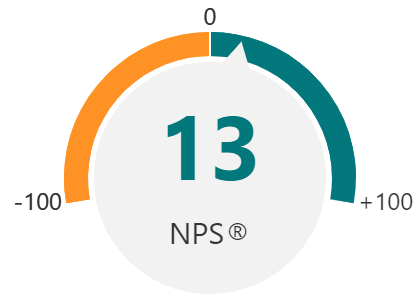
**Tokyo Japanese Cafe healthy meal meal of r Mario Eat Padella food and a discount**

**Ramo Ramen great food imperial students**

**Somsaa**

**Goldmine**

1. How much do you like your course?



|  |  |
| --- | --- |
| Promoters | 9 |
| Passives | 17 |
| Detractors | 5 |

1. Please state your full name below if you're interested in a short follow-up session.

# 6

Responses Latest Responses

**1** respondents (**17**%) answered **Rodi Rahman** for this question.

**Chang**

**Neo Perera Rodi Rahman**

**Vive**

**Wenjun Jiao Chang**