

Chinese Students' Expectations Versus Reality When Studying on a UK-China Transnational Chemistry Degree Program

Philippa B. Cranwell¹, Michael G. Edwards², Katherine J. Haxton², Julie Hyde³, Elizabeth M. Page¹, Daniela Plana², Gita Sedhi⁴ & James S. Wright^{3,5}

¹Department of Chemistry, University of Reading, Whiteknights, Reading, RG6 6AD, UK

²Chemistry, Lennard-Jones Laboratories, School of Chemical and Physical Sciences, Keele University, Keele ST5 5BG, UK

³Department of Chemistry, University of Sheffield, Sheffield S3 7HF, UK

⁴Department of Chemistry, University of Liverpool, Crown Street, Liverpool, L69 7ZD, UK

⁵NUIST - Reading Academy, 219 Ningliu road, Nanjing, Jiangsu, PR China.

Corresponding Author: k.j.haxton@keele.ac.uk

Keywords: *Transnational Degree; Chemistry; China*

Abstract

An extensive study has been conducted into the experiences of Chinese chemistry students studying on transnational education (TNE) programs at four UK institutions partnered with Chinese universities; in particular, student expectations regarding studying in the UK compared with reality were examined. Students were consulted by questionnaire both before and after arrival in the UK. Results from the questionnaires were statistically analysed, the free text responses coded and these data were used to inform further discussion in focus groups. The main differences between the UK and China fell into three key areas: the language barrier; study habits of TNE students in the UK compared to when in China; and the relationship between UK academic staff and the TNE students. These findings are discussed in more detail throughout this paper. We conclude by providing recommendations for other institutions establishing TNE courses.

Introduction

In recent years there has been a rapid increase in the number of UK-based Higher Education Institutions (HEIs) providing collaborative degree programs with overseas partners. The

HE sector in the UK is regarded as one of the most important exports for the UK economy, and a large number of universities are undertaking internationalization programs (HE Global Document, 2016). The Department for Business, Innovation and Skills estimated the value of transnational education courses (TNE) to the economy at £230 million in 2010 with a projected growth to £849 million in 2025 (O'Mahoney, 2011). A TNE course is defined as the "provision of education for students based in a country other than the one in which the awarding institution is located" (HE Global Document, 2016).

The number of students enrolled on TNE courses for UK providers has increased over the past decade, with some providing education for students studying wholly outside the UK, and others for students studying in two institutions (HE Global Document, 2016). The largest proportion of students on TNE programs are from Asia (28%). Recent data from the Higher Education Statistics Agency (HESA) show that in 2016/2017 there were 70,240 Chinese students studying wholly overseas for a UK HE qualification (HESA, 2018).

Cooperation between Chinese Universities and foreign providers, Zhongwai Hezuo Banxue (ZHB), has developed since the mid 1990's and is now subject to oversight from the Chinese government, including licensing and accreditation (Huang 2003). By June 2015, over 1000 TNE programmes in HE had been approved by the Ministry of Education. From 2003/4 onwards, approval was more likely to be granted if the agreement was between a European institution and offered programmes in science, engineering or IT. This reflected TNE's change in status from an addition to China's HE provision (based on legislation in 1995) to an integrated part (revised legislation in 2003/4), focusing on the needs of China's social and economic development (He, 2016). The decision by Chinese students to apply to a TNE programme is complicated. It is viewed as a second choice in comparison to fully overseas or fully domestic high-quality education and may be viewed as means of acquiring the benefits of those programmes (Fang & Wang, 2014). From the perspective of Chinese universities, TNE is used by teaching institutions to expand student numbers with concomitant revenue expansion and cost reduction, and by research intensive institutions to provide different opportunities, particularly for students contemplating further study (Fang, 2012).

TNE provision can be delivered in a variety of different ways, including franchising, distance learning, joint/dual honors awards between institutions (articulations), research degrees, and "flying faculty" (Szkornik, 2017; Cranwell, Page & Hyde, 2016; Huang, 2003). Within chemistry there has been an increase in TNE courses, particularly between the UK and China. In these agreements, students usually study at the institution in China for either two or three years and then transfer to the UK for their final year(s). These arrangements are usually called [2+2], [3+2] or [3+1] programs, depending upon the mode of study.

One of the typical features for delivery on these courses is the use of "flying faculty", where academic staff from the UK-based institution fly to China to deliver key aspects of the course (Smith, 2014). The courses delivered are usually lecture courses, but sometimes entire practical courses can be delivered in this manner (Hyde, 2014a; Hyde, 2014b; Cranwell

et al., 2016). Although there are challenges associated with this model, for example integrating Chinese students with home students and mixed national group work (Spencer-Oatley & Dauber, 2016; Sedghi & Rushworth, 2017), one of the major benefits of the flying faculty model is that prior to coming to the UK the students in China have been exposed to the UK education style and are familiar with some of the staff who will be teaching them after transfer.

Chinese learners

The differences in study habits between western students and students from Chinese universities has been established (McMahon, 2011; Li & Rivers, 2018; Wang 2018). Until the current socialist regime was implemented in 1949, Chinese culture was dominated by Confucianism. Since 1949, education has been closely aligned with the political and social needs of the country. In recent years, education in China has been described as "the cornerstone of the entire process" of the acceleration of "socialist modernization" (Li & Rivers, 2018). Although China is now a socialist state, the values and beliefs of Confucianism are still prevalent in society. In China, education is valued very highly and learning is seen as a moral duty (McMahon, 2011). Confucius believed that if a student could not cite ancient knowledge, new learning could not take place (Li & Rivers, 2018). In traditional China, an educated person was someone who could memorize classics, and in modern China memorization is still used to teach students social and moral obligations (Chan, 1999). It has been noted that Chinese students are driven by the notion that they are representing their family and that they are judged by their success (Hwang *et al.*, 2002). This has implications in the classroom, because students may not ask questions due to either a fear of perceived lack of knowledge, or to "showing off" (Hodkinson & Porpat, 2013). In addition, the usual immediate feedback mechanisms available to the lecturer for example questioning or student body language, may not be readily available (Hodkinson & Porpat, 2013) because students are more reticent to show their emotions. The cultural association of "representing ones family" can be attributed to placing pressure on Chinese students to pass difficult exams, which can lead to students rote learning to obtain the

best result (Yee, 1989). For example, the Gao Kao, the Chinese matriculation examination taken by students aged 18, is notoriously difficult. This has led to the preconception by western lecturers that Chinese students only undertake “surface learning” (Hwang *et al.*, 2002; McMahon, 2011).

Challenges and consequences for transnational education design and delivery

The issues outlined in the previous section can mean that integration into a contemporary Western-style education system is not without consequences for the typical Chinese undergraduate. Not only does the student have to adapt to the different approach to teaching, learning and assessment styles, but also to a different language, culture and lifestyle. The receiving institution has responsibilities towards international students and has to consider their cultural and educational backgrounds in curriculum design, whilst maintaining a suitable learning environment for domestic students on the same course. Transnational students have a heavy investment in their year(s) away. In most cases this is their final year and, as such, is heavily weighted. The structure of the university year limits teaching time to between 20 and 24 weeks in most institutions, with examinations and vacations occupying a large proportion of the rest of the year. This gives international students only a short time-frame in which to acclimatize to their new life and learn the nuances of a new educational institution. In addition, there are various differences between the study-styles of western students and Chinese students. Some of the administrative issues, financial challenges and risks have been recognized by a recent BIS report (BIS, 2013), but the challenge of providing a suitable teaching experience for international students in both their home and host countries has not received a great deal of attention in the literature.

Programme structures

This study involves four transnational degree programmes between different UK-HEIs (all based in England, however to avoid confusion with English language matters, we have used UK to describe the country) and Chinese partners (table 1). All programs are designed to ensure smooth progression in curriculum

content from the first few years in China to the final year(s) in the UK and different modes of operation exist. All students were aiming for a Dual Award – degrees awarded by both the Chinese university and the UK university.

While there are variations between all programs, there are many commonalities. A significant proportion of modules in China are delivered by the “flying faculty” model in short, intensive blocks. To transfer to the UK, the students need to achieve predetermined academic criteria at each of the four institutions in this study, and in addition to meet a minimum IELTS score. All institutions require the Chinese students to integrate with the UK cohorts. Dual degree awards are available to students who successfully complete the requirements of both the Chinese and UK institutions. The proportion of chemistry taught in English and the involvement of UK staff in the first two or three years of study in China varies between institutions.

Research Question

Our aim was to investigate the expectations and experiences of study in the UK by Chinese students enrolled on transnational chemistry degrees. Our objectives:

- 1) the preconceptions and expectations that Chinese students have towards study in the UK;
- 2) students' perceived proficiency in English (scientific and conversational) before and after transfer;
- 3) how students engage with lecture materials and lecturers before and after transfer; and
- 4) if their learning approach and engagement with additional resources changes after transfer.

This was completed from the perspective of English (UK) Higher Education to address concerns about integration, attainment, and well-being of incoming Chinese students on TNE programmes. This is significant because incoming Chinese students may rely only on their attainment in the English University to determine their UK-HEI degree classification.

UK partner	Keele University	Liverpool University	University of Reading	University of Sheffield
China partner	Nanjing Xiaozhuang University (NXU)	Liverpool Xi'an Jiatong University (XJTLU)	Nanjing University of Information Science & Technology (NUIST)	Nanjing Tech University (NJTech)
Programme structure*	[3+1]	[2+2] & [2+3]	[3+1]	[3+1]
Award	Dual Award, BSc Applied Chemistry	Dual Award, BSc Chemistry or MChem	Dual Award, BSc Applied Chemistry	Dual Award, BSc Chemistry
Delivery in China	Year 1: NXU staff deliver course. Years 2 & 3: Keele staff visit and deliver lectures and laboratory courses.	Years 1 & 2: XJTLU staff deliver the Chemistry course in English. It is wholly aligned with the UK course content.	Years 1-3 in China are similar to UK degree programme. The course is mainly delivered by Chinese staff in English, but Reading staff visit for two one-week periods.	Years 1-3 in China are similar to UK degree programme. Some lecture courses and all practical classes are delivered by Sheffield staff, in English, at NJTech.
Quantity of UK delivery in China	8 x 15 credit modules: 6 "flying faculty" modules and 2 distance learning modules in years 2 and 3	None.	Some lectures and content delivered by UK staff. Content and lectures are aligned with UK content.	Some lectures and content delivered by UK staff. Content and lectures are aligned with UK content.
Admission Requirements for UK year	Must pass core modules. IELTS Score average 6.0, with 6.0 in reading and writing and 5.5 in listening and speaking.	Must pass core modules. No IELTS requirements.	Must pass core modules. IELTS Score average 6.5, with no component below 5.5	Must pass core modules. IELTS Score average 6.0, with no component below 5.5
Structure in UK	Pre-sessional English if required, join Year 3 BSc Chemistry cohort with two bespoke laboratory-based modules in lieu of final year project and dissertation	Students directly join Year 2 of the BSc or MChem degree programme.	Pre-sessional English if required; Pre-sessional laboratory course; Join Year 3 of BSc cohort and study two bespoke modules.	Pre-sessional English; Pre-sessional laboratory course; Join Year 3 of BSc cohort.
Ave. cohort size in China (per year)	~35	10 - 50	~40	~55
Ave. cohort size transferring to the UK (per year)	10 - 20	8 - 25	20 - 30	30 - 40
References	Szkornik, 2017 Haxton & Darton, 2019	Sedghi & Rushworth, 2017		Hyde, 2014a; Hyde, 2014b; Hyde, 2019.

Table 1 Outline Programme Structure for each Institution (Cranwell et al., 2016). Data correct as of January 2017. *The first number is the years spent studying in China, the second at the UK-HEI.

	Keele	Liverpool	Reading	Sheffield
Total number of students in China	35	19	13	54
Spring 2017: Pre-arrival Questionnaire (15 questions)	17	19	13	13
Total number of students in UK	20	18	13	25
Autumn 2017: Post-arrival Questionnaire (11 questions)	20	17	13	25

Table 2 Structure of study.

Method

We selected a mixed methods approach, using both questionnaires and focus groups. Ethical approval for this study was obtained from the University of Liverpool for all institutions involved in this study. Permission to use anonymized quotations was obtained.

Questionnaires

Two anonymous questionnaires were designed to collect data from Chinese students before they transferred to the UK institutions in Spring 2017, and then in Autumn 2017, after transfer. Not all of the students answering the questionnaire in China transferred to the UK. The questionnaires used a mixture of free-text and Likert-scale questions. Likert-scale responses were analysed and tested for significant differences in response before and after arrival in the UK (Norman 2010; Sullivan & Artino, 2013). Two-sample students t-tests were used to test for significance for unpaired data, and Pearson Correlation Coefficients were calculated to test significance for paired data within either the pre- or post-arrival data. Free-text responses were coded using thematic analysis and verified by another researcher with 95% agreement. Differences in coding were discussed and resolved. These data informed the questions and themes for discussion in the focus-groups. The total number of students (*n*) for each questionnaire is given in Table 2.

Results and discussion

Student expectations prior to transfer

The pre-arrival questionnaire posed questions relating to student expectations about study and life in the UK and the post-arrival questionnaire was designed to see if these expectations were met (Figure 1). Prior to

arrival students were concerned about the quantity of group-work expected, the different culture, the schedule, independence and the language barrier. The language barrier was by far the students' biggest concern, with 28% of students citing this as a perceived difficulty. After transfer, the language barrier was a large concern but with fewer students (21%) citing it as a difficulty. The categories with major differences between expectations and reality post-arrival were the different teaching methods used (14%), the busier schedule (28%), the amount of independent study required (24%) and the amount of personal independence students had (11%). On the whole, most students had a positive perception of transfer to the UK, which was further improved after arrival.

More detailed interpretation of questionnaire and focus-group data showed that the main differences in expectation and reality regarding study in the UK could be arranged into three themes: the language barrier (conversational and scientific use of English); study habits of TNE students in the UK compared to when in China (including managing workload, independence and teaching methods), and the relationship between UK academic staff and the TNE students (cultural differences).

English Language

Although all of the students on the TNE programs have been exposed to at least three years of English language tuition prior to transfer to the UK, our data suggest that students are not necessarily confident in their English language ability and the language barrier was both a perceived and an actual difficulty that these students faced. To probe this further, students were asked to rate their confidence for scientific and conversational

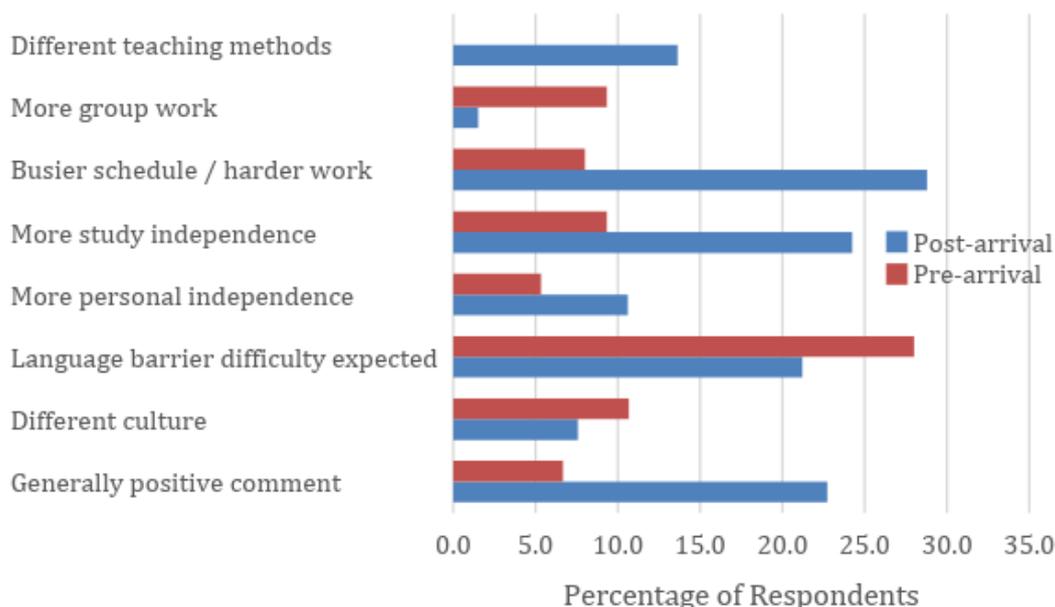


Figure 1 Results of thematic analysis of the pre-arrival and post-arrival questionnaire opinions. Question pre-arrival: what do you think studying in the UK is like?; what do you think will be the biggest difference between studying in the UK compared to in China?. Question post-arrival: what is studying in the UK like?; what do you think is the biggest difference between studying in the UK compared to in China?.

	Conversational/casual		Scientific	
	Mean	St. Dev.	Mean	St. Dev.
Pre-Arrival	5.98	1.56	5.52	1.82
Post-Arrival	5.80*	1.29	5.72*	1.45

Table 3 On a scale of 1 – 10 how confident are you in your conversational/casual English and scientific English? 1 = not confident at all, 10 is completely confident. *Pearson correlation coefficient ($r = 0.54, n = 75, p < 0.01$).

English ability both prior to, and after, transfer. Students' conversational English confidence has declined after transfer, whereas confidence in their scientific English has increased (Table 3). While data are not statistically significant, post-arrival, confidence in casual English correlated positively and moderately with confidence in scientific English ($r = 0.54, n = 75, p < 0.01$).

Before transferring to the UK students anticipated facing difficulties with spoken English and were worried about regional accents, the ability of others to understand them and talking face-to-face with native English speakers. In free text comments, one student wrote *"I am not familiar with the meaning of native special sentences or slang"* and another *"I am not confident in speaking with native speaker"*. After transfer, there were

fewer comments about their language concerns, and regional accents were not cited as being difficult to understand. Regional accent was found to be important by Chalmers and Volet (1997), who found that south-east Asian students studying in Australia took time to adjust to the Australian accent and speed of delivery. A complementary study on teaching effectiveness by Morrison and Evans (2018) reported that 'being a good English speaker' and 'speaking in an unfamiliar accent' were important aspects in teaching practice; pronunciation and accent can have a considerable impact on students' learning. In addition, it is likely that students' confidence in English declined because they are immersed in the UK language and culture where the spoken English used is likely to be significantly different to that experienced previously while in China.

Type of media	Pre-arrival (%)	Post-arrival (%)
Movies	42.9	37.0
Anime	2.0	0
TV	8.0	43.8
Books	26.2	5.5
Video games	31.0	30.1
Online video	23.8	16.4
Websites	9.5	13.7
Music	2.4	0
News media	0	6.9

Table 4 Pre-arrival: Do you read any English language books or websites, watch any English language TV shows/movies/online videos or play any English language games? $N = 42$.
Post-arrival: Do you read any English language books or websites, watch any English language TV shows/movies/online videos or play any English language games? $N = 73$

When asked about how they learnt English, prior to arrival most students used the internet to supplement any materials that they were given in a classroom setting. The most common English language source was watching (American) TV, closely followed by watching movies and playing video games. Online videos were used, but websites and music were less popular, and news media was not mentioned, (Table 4). Post-arrival, student media consumption changed significantly, with TV becoming much more popular than any other source of English. Books declined in popularity (from 26% to 5.5%) and websites increased dramatically (from 9.5% to 13.7%). This may be due to students' more ready access to TV shows or websites while in the UK compared to in China.

The reasons for the students' confidence in scientific English increasing slightly after transfer are unclear (Table 3). Lectures are recorded at all of the UK institutions in this study, so it may be that students are attending lectures and making notes, and then watching lectures again to glean additional meaning. Interestingly, when comparing students taught entirely in English from Year 0 in China with those students taught partly in English and partly in Chinese, there was no difference in students' perceived confidence.

Students at all four institutions commented that the fast speed of delivery in the UK made understanding the material and making notes

simultaneously problematic. Students stated that there is a slower pace in China that allows students to take notes and achieve a good level of understanding. If there are any issues with the lecture content, these are discussed with their peers and lecturers outside the classroom.

"Because we are not native speakers we have to do some translation in our brains so we can catch up. So, we can take notes, can catch up with what he is saying and that can make us miss some very important content of the course."

A language barrier, either real or perceived, affects students' ability to interact with lecturers and their UK-based peers and may explain concerns pre-arrival about the quantity of group work. The students' self-reported decline in confidence in conversational English will likely impact upon integration with the domestic cohort. One student provided an insight into interaction with lecturers and their peers in the laboratory:

"Sometimes, when we communicate with our classmates, our English classmates or the lecturers, sometimes I'm asked to repeat my sentence. And if I find they feel confused of what I said, then I will feel very confused, because I'm not sure if they do not understand the chemistry in my words, or my English! I'm not sure [giggles]. So, when

	Read Textbooks	Read the lecture notes	Write-up notes from my classes	Work on chemistry problems	Revise for tests/exams
pre-arrival (n = 61)	75%	71%	66%	66%	69%
post-arrival (n = 73)	64%	91%	70%	66%	66%

Table 5 Self-reported methods of study.

	Greater study independence	Busier schedule /harder work	More group work
pre-arrival (n = 75)	9%	8%	9%
post-arrival (n = 66)	24%	29%	1.5%

Table 6 Opinions and expectations about studying in the UK - results of thematic analysis of pre- and post-arrival questionnaires.

I find they are confused, I don't know if I should explain the chemistry better, or improve the English of my sentence. That makes some difficulties in communication with the lecturers and also the native speakers."

Student Study Habits

When considering study habits between the UK and China some of the difficulties reported relate to the language barrier, however there are some other noticeable differences. It was noted that the amount of independent study and the workload required when in the UK was significantly higher than students expected. In addition, the teaching methods used in the UK were different to those in China.

When comparing Reading, Sheffield and Keele, the students in China spend approximately 1.5 times the number of hours in lectures than students in the UK. In China, chemistry lectures are typically around 100 minutes long with a short break, whereas in the UK lectures are usually 50 minutes in length. At Liverpool, there is no significant difference in the length of lectures in the UK and China. Our observations suggest that in China, lecture delivery uses more detailed slides, and students are rarely required to make notes. In the UK there is a greater onus on the students to take additional notes or read appropriate literature outside of their lectures, particularly in the final year of study.

On average, students spent approximately 8 hours per week studying outside classes, both before and after transfer (self-reported time). Students were asked what they did in their spare time to study (Table 5). Textbook use decreased upon arrival in the UK, which was tentatively attributed to a decrease in access to textbooks written in Chinese (*"I don't have Chinese textbooks"*, post-arrival questionnaire) and thus a greater reliance on lecture notes. This may be related to difficulties with English language or to the teaching style. Writing up notes, completing problems (e.g. tutorials) or revising for tests and examinations remained unchanged. When asked more specifically about the differences between the UK and China there were some key observations (Table 6).

Students did not expect to have so much independence when studying in the UK, with an increase from 9% before transfer to 24% after transfer. The schedule, although lighter in the UK with fewer timetabled hours, was perceived to be much harder. In China the students are timetabled to complete self-study, so this would not necessarily be classified by students as something that they should be doing in addition to their formal taught session. This was reflected in the post-arrival questionnaire free-text responses where students stated:

"...there is very little time in class and so we have to spend a lot of spare time studying ourselves..."

"...we have more spare time. We should spend more time on studying by ourselves..."

"...it is quite busy studying in the UK. Time management is much more important..."

The need to prepare prior to sessions was also mentioned:

"...spend more time preparing for lecture..." (post-arrival questionnaire),

as well as the additional time required to understand content due to language barriers,

"...we spend more self-study time in the UK because of the language difference."

Students seem to work more independently than they did in China, with less group work. Generally, students were positive about their experiences.

Students remarked on the new, or more diverse, teaching methods encountered in the UK, which helped them develop various soft-skills. This was compared to more textbook and lecture-oriented teaching in China, which focuses on examination performance rather than developing softer-skills required after graduation. Interestingly, the students were unsure which approach they thought better or more useful.

"In China, the teaching we experienced was more specific to the exams, but in the UK they are more concentrated on developing our skills. The UK style of teaching is supposed to be more useful, but it is harder to achieve higher marks. Lower marks in the exams will decrease students' confidence. It is hard to say which is better." (Focus-group)

Student-Lecturer Communication

The difference in culture between student and lecturer relationships in the UK and China emerged as a theme throughout the free-text responses to the questionnaires and so was

probed further during the focus groups. Four aspects emerged that categorised the differences that students found: the relationship between student and lecturer; the willingness of students to approach the lecturer; the cultural differences of China and the UK in terms of lecturer hierarchy; and the willingness of students to contribute to class.

In questionnaires, students were specifically asked about how often they talk to lecturers to help them study chemistry. Our interest in their willingness to approach their lecturers to ask questions arose from our anecdotal observations of the relative 'quietness' of the Chinese students compared to their UK counterparts. Comparing questionnaire responses when in China and after arrival, an overall decrease in students' willingness to approach lecturers to ask questions can be observed, Figure 2.

McMahon (2011) suggests that one-on-one engagement between lecturer and student is an important part of the learning process for Chinese students, therefore the decline in students' willingness to approach a lecturer once in the UK across all four institutions studied is concerning. When examined in the focus-groups, differences between attitudes among students of the different degree formats towards approaching their UK lecturers emerged. Students studying on programmes where there was a great deal of interaction with UK-based staff before transfer were much more likely to approach their UK lecturers rather than those where pre-arrival exposure was minimal.

Two cohorts of students had extended contact with their UK lecturers in China, prior to coming to the UK (Keele – 1 month, Sheffield – 3 months). The students at these two institutions felt much more familiar with the chemistry staff once in the UK and were much more likely to approach them for help.

"Comfortable to answer questions both in face or via e-mail. Sometimes more easily understood by e-mail, however, more specific in face-to-face conversation."

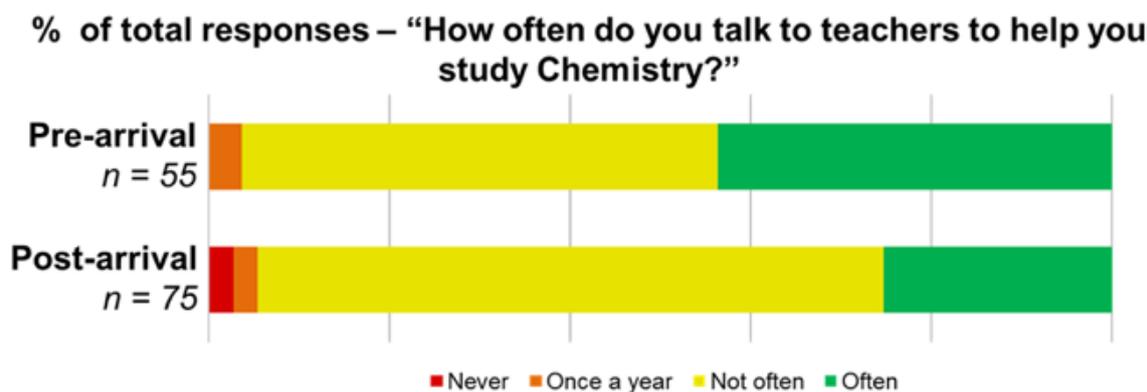


Figure 2 Student responses to the question “How often do you talk to teachers to help you study?”. Possible answers were: never, once a year, not often and often. Responses from all four institutions were combined.

In contrast, a student on a degree with less UK staff familiarisation in China noted:

“We never ask lecturers questions. We prefer to ask the international support tutor... We are too shy to ask a lecturer a question at the end of a lecture because we are afraid that the lecturer won't understand what we say.”

Students on the joint degree from this institution experience lectures from “flying faculty” but upon transfer to the UK they have access to an international support tutor, who is a native Mandarin speaker. We suggest that the combined effect of having a Mandarin speaker readily available, as well as not becoming familiar with UK staff in China before transferring to the UK, contribute to students' unwillingness to approach UK lecturers for help.

When asked how comfortable students feel interacting with their UK lecturers, one student also said:

“For example, if I ask a question in class, there is only one hour, it will cause an interruption to the class. Maybe I just cast my opinion ... so it makes other students stop. So maybe someone is already understanding it. I don't feel, or they can't understand but it takes a lot of time, and makes the lecturer stop, so I don't think it's a good way to ask questions, to interrupt the lecturer. Just after class is better.”

This apparent unwillingness to ask questions in class, a behaviour encouraged and expected in western classroom settings, has been discussed previously in literature (Dougherty and Wall, 1991; Hodkinson and Poropat, 2014) who describe the phenomenon of ‘Kiasu’ where Chinese students are described as being generally less willing to ask questions in class for fear of losing ‘face’. Students wish to avoid the embarrassment of providing a wrong answer by asking a question that others already know the answer to, or even stand out too much by answering too many questions correctly. All these factors in combination reinforce their ‘quiet’ behaviour in class. The student quoted above studied on a joint degree, in which students are taught by joint institute staff in the UK style from their first year, suggesting that even if exposed to UK teaching methods on a chemistry degree from an early stage, these behaviours may be difficult to overcome.

The relationship between students and lecturers in the UK is quite different to those in China and is well-documented (Watkins, 2000; McMahon, 2011). Chinese students reported familiarity with a few UK lecturers, acknowledged as friends, as well as someone to ask their discipline-related questions. This may be due to the efforts made by specific UK lecturers to build closer links to facilitate better integration into the UK degree programmes, and who may have taught at the Chinese institution and have a role in facilitating the integration of the Chinese students.

"I spent some time with some professors, and I found they treated us as friends. So I think it's very comfortable; maybe not talking about the studying, but talking about some normal stuff, is also, it looks like a normal thing. And we don't need to be embarrassed when we are talking with them."

In China, the student-lecturer relationship is hierarchical, noted as being like one with a parent where students show their respect with compliance and obedience (Bear *et al.*, 2014). Some students explained how Chinese cultural norms around respect and hierarchy affect their interaction with lecturers both in and outside of the classroom:

"In Eastern cultures, the [lecturer] is more like the person you should, um, respect, or you know he's, um, like parents to you. And you know, in China when the [lecturer] wants to see you, you may feel afraid and don't want to. Here, if the [lecturer] wants to see you and talk something about your studies, I think I am very happy to meet them."

"It's very interesting because, in China, when students were talking about when they will get in touch with a [lecturer], mostly it means you're doomed! You made a mistake! [several laugh] But in here, it is very normal, it's just a way for me to get good communication with your tutors or [lecturers]. That's very different from China."

This directly refers to the hierarchical relationship between student and lecturer (Watkins, 2000; McMahon, 2011; Li & Rivers 2018), and highlights one possible reason why Chinese students may feel reluctant to approach their UK lecturers with questions. This particular student feels comfortable approaching the UK chemistry lecturers with questions but Figure 2 shows this is not universal across the sample. Students on average became less likely to approach their lecturers about chemistry, which may be as a cultural effect or may be due to a lack in confidence in the language, as discussed earlier.

Conclusions

Student expectations prior to arrival in the UK, and their experiences after arrival, are broadly aligned; however, there are some key differences. The largest single concern for students was the language barrier. After transfer, this concern decreased despite the self-reported confidence of students in their own English ability being unchanged, but worries about the independent learning and their lecture schedule increased. English language concerns and difficulties fed into other areas, for example the students found it difficult to take accurate notes during lectures because they had difficulty understanding the lecturer.

In both China and the UK, the self-reported number of hours spent undertaking self-study was eight hours per week, however, this was interesting because in China the students had more timetabled hours, but upon transfer to the UK students said that they worked harder. This difference in perceived additional study and actual study was attributed to cultural differences around whether self-study is timetabled (China) versus an expectation (UK). This sometimes led to situations where students did not understand the concept of "self-study" and had to teach themselves, or be taught, what self-study meant.

The lack of willingness for students to approach lecturing staff was concerning and is an aspect that lecturers on TNE courses should consider. One suggestion for improving this is through the staff that travel to China, where the local students can interact with them more. However, this approach is only successful if UK-based members of staff stay in China for extended periods as is done by Sheffield and Keele. UK-based students acting as buddies to the TNE students that transfer into their programs has been successful at the University of Reading, creating way for TNE students to ask questions in confidence. At Keele, a distance learning module synchronised with a face-to-face module at Keele enabled student interaction prior to arrival (Haxton & Darton, 2019), while at Liverpool, multicultural group work can aid integration (Sedghi & Rushworth 2017).

References

- Bear G.G., Yang C., Glutting J., Huang X., He X., Zhang W. & Chen D., (2014). *Understanding Teacher-Student Relationships, Student-Student Relationships, and Conduct Problems in China and the United States*, *International Journal of School and Educational Psychology*, 2, 247-260. DOI: 10.1080/21683603.2014.883342
- Bernstein B. & Solomon D., (1999). *Pedagogy, Identity and the Construction of a Theory of Symbolic Control: Basil Bernstein questioned by Joseph Solomon*, *British Journal of Sociology of Education*, 20, 265-279. DOI: 10.1080/01425699995443
- Chalmers D. & Volet S. (1997). *Common Misconceptions about Students from South-East Asia Studying in Australia*, *Higher Education Research and Development*, 16, 87-99. DOI: 10.1080/0729436970160107
- Chan S., (1999). *The Chinese learner – a question of style*, *Education and Training*, 41, 294-305. DOI: 10.1108/00400919910285345
- Cranwell P.B., Page E.M. & Hyde, J. (2016). *Collaborative Chemistry Degrees*. *Education in Chemistry*.
<https://eic.rsc.org/feature/collaborative-chemistry-degrees/2000078.article> [Accessed 16th September 2018].
- Department of Business, Innovation and Skills, (2013). *International Education, Global Growth and Prosperity*. Downloaded from:
<https://www.gov.uk/government/organisations/departments-for-business-energy-and-industrial-strategy> (17th August 2018).
- Dougherty T.W. & Wall J.A. (1991). *Teaching in China during the age of reform*, *Journal of Management Education*, 15, 232-243. DOI: 10.1177/105256299101500207
- Fang, W. (2011). *The Development of Transnational Higher Education in China: A Comparative Study of Research Universities and Teaching Universities*. *Journal Of Studies In International Education*, 16(1), 5-23. DOI: 10.1177/1028315311410607
- Fang, W. & Wang, S. (2014). *Chinese Students' Choice of Transnational Higher Education in a Globalized Higher Education Market: A Case Study of W University*. *Journal Of Studies In International Education*, 18(5), 475-494. DOI: 10.1177/1028315314523989
- Feng, Y. (2012). *University of Nottingham Ningbo China and Xi'an Jiaotong-Liverpool University: globalization of higher education in China*. *Higher Education*, 65(4), 471-485. DOI: 10.1007/s10734-012-9558-8
- Gu M., (2010). *A Blueprint for Educational Development in China: A Review of "The National Guidelines for Medium- and Long-Term Educational Reform and Development (2010–2020)*, *Frontiers of Education in China*, 5, 291- 309. DOI: 10.1007/s11516-010-0101-3
- Haxton, K.J. & Darton, R.J. (2019). *International Group Work for Sustainable Chemistry*. *New Directions in the Teaching of Physical Sciences*, Volume 14, Issue 1 (2019). DOI: 10.29311/ndtps.v0i14.2821
- He, L. (2015). *Transnational Higher Education Institutions in China: A Comparison of Policy Orientation and Reality*. *Journal Of Studies In International Education*, 20(1), 79-95. DOI: 10.1177/1028315315602931
- Higher Education Statistics Agency. (2015). *First statistical release, 2013–2014*. Retrieved from <https://www.hesa.ac.uk/> [Accessed 16th September 2018].
- Higher Education Statistics Agency. (2018). <https://www.hesa.ac.uk/data-and-analysis/students/where-from> [Accessed 17th August 2018].
- Hodkinson S.S. & Poropat C.E. (2014). *Chinese students' participation: the effect of cultural factors*, *Education and Training*, 56, 430-446. DOI: 10.1108/ET-04-2013-0057
- Hwang A., Ang S. & Francesco A.M. (2002). *The silent Chinese: the influence of face and kiasuism on student feedback-seeking behaviors*, *Journal of Management Education* 26, 70–98. DOI: 10.1177/105256290202600106

- Huang, F. (2003). *Transnational Higher Education: A perspective from China*. Higher Education Research & Development, 22(2), 193-203. DOI: 10.1080/07294360304114
- Hyde, J. (2019). *Design of a three year laboratory programme for international delivery*, in Seery, M. K. and Mc Donnell, C. (Eds.), *Teaching Chemistry in Higher Education: A Festschrift in Honour of Professor Tina Overton*, Creathach Press, Dublin, 405-420.
- Hyde J. (2014). *Taking Laboratory Chemistry to China: A Personal View*. New Directions, 10, 32–35. doi:10.11120/ndir.2014.00022
- Hyde J. (2014). *Can you teach University Chemistry Abroad?* Chemistry in Sri Lanka, 31, 18–19.
- Li, L. & Rivers J.G. (2018). *An inquiry into the delivering of a British curriculum in China*, Teaching in Higher Education, 23, 785-801. DOI: 10.1080/13562517.2017.1421626
- Malatji K.S. (2017). *Moving away from rote learning in the university classroom: The use of cooperative learning to maximise students' critical thinking in a rural university of south Africa*, Journal of Communication, 7, 34-42. Available at: <http://krepublishers.com/02-Journals/JC/JC-07-0-000-16-Web/JC-07-1-000-16-Abst-PDF/JC-07-1-SV-032-16-186-Malatji/JC-07-1-SV-032-16-186-Malatji-Tx%5B4%5D.pdf>
- McMahon, P. (2011). *Chinese voices: Chinese learners and their experiences of living and studying in the United Kingdom*, Journal of Higher Education Policy and Management, 33, 401-414. DOI: 10.1080/1360080X.2011.585739
- Morrison, B. & Evans, S. (2018). *University students' conceptions of the good teacher: A Hong Kong perspective*, Journal of Further and Higher Education, 42, 352-365. DOI: 10.1080/0309877X.2016.1261096
- Nield, K. & Thom, V. (2009). *Chinese students — a matter of heart*, Enhancing Learning in the Social Sciences, 2, 1-26. DOI: 10.11120/elss.2009.02010007
- Norman, G. (2010). *Likert scales, levels of measurement and the "laws" of statistics*, Advances in Health Science Education, 15, 625-632. DOI: 10.1007/s10459-010-9222-y
- O'Mahony, J. (2011). *Enhancing student learning and teacher development in transnational education*, HEA report, Conlon, Lichfield, p. 10 Available at: <https://www.advance-he.ac.uk/knowledge-hub/enhancing-student-learning-and-teacher-development-transnational-education>
- Schmidt, H-J. (2000). *Should chemistry lessons be more intellectually challenging?* Chemical Education: Research and Practice in Europe, 1, 17-26. DOI: 10.1039/A9RP90002K
- Sedghi, G. & Rushworth E. (2017). *The relation between multi-cultural group work and the integration of home and international students*, New Directions in the Teaching of Physical Sciences. 12, 1. Available at: <https://journals.le.ac.uk/ojs1/index.php/new-directions/article/view/857>
- Smith, K. (2014). *Exploring flying faculty teaching experiences: Motivations, challenges and opportunities*. Studies in Higher Education, 39, 117–134. DOI: 10.1080/03075079.2011.646259
- Spencer-Oatey, D. & Dauber, D. (2016). *The gains and pains of mixed national group work at university*, Journal of Multilingual and Multicultural Development, 38, 219-236. DOI: 10.1080/01434632.2015.1134549
- Sullivan, G.M. & Artino, A.R. (2013). *Analysing and Interpreting Data from Likert-Type Scales*, Journal of Graduate Medical Education, 5, 541-542. DOI: 10.4300/JGME-5-4-18
- Szkornik, K. (2017). *Teaching and learning on a transnational education programme: opportunities and challenges for flying faculty in Geography and related disciplines*, Journal of Geography in Higher Education, 41, 521-531. DOI: 10.1080/03098265.2017.1337735
- The Scale and Scope of UK Higher Education Transnational Education, (2016). *HE Global*. retrieved from <https://www.britishcouncil.org/sites/default/files/scale-and-scope-of-uk-he-tne-report.pdf>

Upton, T.A. (1989). *Chinese students, American universities, and cultural confrontation*, *Minne TESOL Journal*, 7, 9-28. Available at: <https://eric.ed.gov/?id=ED339191>

Wang, I. K.-H. (2018). *Long-term Chinese Students' transitional experiences in UK higher education: A particular focus on their academic adjustment*, *International Journal of Teaching and Learning in Higher Education*, 30, 12-25. Available at: <https://files.eric.ed.gov/fulltext/EJ1169827.pdf>

Watkins, D. (2000). *Learning and Teaching: A cross-cultural perspective*, *School Leadership*

and Management, 20, 161-173. DOI: 10.1080/13632430050011407

Yee, A. (1989). *Cross cultural perspectives on higher education in East Asia: Psychological effects upon Asian students*. *Journal of Multilingual and Multicultural Development*, 10, 213–232. DOI: 10.1080/01434632.1989.9994375

Zha, Q., Wu, H., & Hayhoe, R. (2019). *Why Chinese universities embrace internationalization: an exploration with two case studies*. *Higher Education*. DOI: 10.1007/s10734-019-00364-w