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## - CHAPTER 5 -

### **Breaking down barriers? ICTs, international students and intercultural communication within UK Higher Education institutions.**

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#### **Abstract**

The internationalisation of Higher Education Institutions (HEIs) in the United Kingdom over the past decade has meant that most students are expected to engage in learning activities which involves working with peers from other cultures. Research suggests that international students, South-East and East Asian students in particular, often face challenges adjusting from a 'passive' teacher-fronted educational system to the more active 'student-centred' approach favoured in countries such as the UK. Information and communication technologies (ICTs) have frequently been proposed as a solution to these issues in light of their perceived popularity among international students and their positive impact on classroom engagement and learning outcomes. This paper adds to this emergent literature by empirically investigating the use of ICTs to facilitate intercultural communication between international students at the University of Sheffield. Two focus groups with a group of international postgraduate (PGT) students (N=10) were collected. Results indicate that Instant Messaging apps, such as WhatsApp, and translation tools were frequently used by these participants to overcome the language barriers they experienced working within these groups. While they were generally enthusiastic about the use of ICTs to facilitate intercultural communication in HEIs, there were still some culturally specific use of emojis and stickers that confused students from other cultures. Moreover, the use of ICTs was perceived to have had little impact on the 'free rider' problem associated with group work in Higher Education.

**Keywords:** information and communication technologies, intercultural communication, internationalisation, asynchronous communication, multicultural group activities, international students

#### **Résumé**

L'internationalisation des établissements d'enseignement supérieur (HEI) au Royaume-Uni au cours de la dernière décennie a fait que la plupart des étudiants sont censés s'engager dans des activités d'apprentissage qui impliquent de travailler avec des pairs d'autres cultures. Les recherches montrent que les étudiants étrangers, en particulier ceux d'Asie du Sud-Est et de l'Est, sont souvent confrontés à des difficultés pour passer d'un système éducatif "passif", dirigé par les enseignants, à une approche plus active, "centrée sur l'étudiant", privilégiée dans des pays comme le Royaume-Uni. Les technologies de l'information et de la communication (TIC) ont souvent été proposées comme solution à ces problèmes, compte tenu de leur popularité perçue auprès des étudiants étrangers et de leur impact positif sur l'engagement en classe et les résultats de l'apprentissage. Ce chapitre s'ajoute à cette littérature émergente en étudiant de manière empirique l'utilisation des TIC pour faciliter la communication interculturelle entre les étudiants internationaux à l'University de Sheffield. Deux fous groups avec une promotion d'étudiants internationaux de troisième cycle (PGT) (N=10) ont été réunis. Les résultats indiquent que les applications de messagerie instantanée, telles que WhatsApp, et les outils de

traduction ont été fréquemment utilisés par ces participants pour surmonter les barrières linguistiques qu'ils ont rencontrées en travaillant au sein de ces groupes. S'ils étaient généralement enthousiastes quant à l'utilisation des TIC pour faciliter la communication interculturelle dans les EES, il y avait encore une certaine utilisation culturellement spécifique d'emojis et d'autocollants qui confondait les étudiants d'autres cultures. En outre, l'utilisation des TIC est perçue comme ayant eu peu d'impact sur le problème du "passager clandestin" associé au travail de groupe dans l'enseignement supérieur.

**Mots clés :** technologies de l'information et de la communication, communication interculturelle, internationalisation, communication asynchrone, activités de groupe multiculturelles, étudiants internationaux

## **Introduction**

The internationalisation of Higher Education Institutions (HEIs) in the United Kingdom over the past decade has meant that most students are expected to engage in learning activities which involves working with peers from other cultures. Research suggests that international students, South-East and East Asian students in particular, often face challenges adjusting from a 'passive' teacher-fronted educational system to the more active 'student-centred' approach favoured in countries such as the UK (Carroll & Ryan, 2007). Barriers, such as a lack of proficiency in the English language, often makes it difficult for these students to fully participate in group tasks that include students from other countries. Information and communication technologies (ICTs) have frequently been proposed as a solution to these issues in light of their perceived popularity among international students and their positive impact on classroom engagement and learning outcomes (Arenas, 2015; Gray, Chang, and Kennedy, 2010). This paper adds to this emergent literature by empirically investigating the use of ICTs to facilitate intercultural communication between international students at the University of Sheffield.

Two focus groups were held in July 2019 in order to qualitatively explore how a group of international postgraduate (PGT) students (N=10) used ICTs to communicate with multicultural groups as they worked together on their assignments. Results indicate that Instant Messaging apps, such as WhatsApp, and translation tools were frequently used by these participants to overcome the language barriers they experienced working within these groups. While they were generally enthusiastic about the use of ICTs to facilitate intercultural communication in HEIs, there were still some culturally specific use of emojis and stickers that confused students from other cultures. Moreover, the use of ICTs was perceived to have had little impact on the 'free rider' problem associated with group work in Higher Education.

## **1. Literature Review**

### **1.1 Pedagogical challenges of Internationalisation in Higher Education**

Higher Education Institutions (HEIs) across the world have become increasingly international over the past few decades, particularly in terms of student recruitment. International students are increasingly viewed as an essential source of income for world-class universities in countries such as the United Kingdom (UK) and the United States (Urban & Palmer, 2014).

The most recently available data showed that there were 442,375 international students studying in the UK, accounting for one fifth of the total student population (UKCISA, 2016). The Russell Group of the leading 24 research-intensive universities has been particularly vocal in emphasising the social, cultural, and economic contributions that these students make to towns and cities across the UK. Nevertheless, international students continue to face challenges adjusting to host cultures, such as language barriers, cultural differences, and social integration issues (Andrade, 2006; Meier & Daniels, 2013). Students from China, the most popular country of origin for international students in the UK (HESA, 2018), transition from an educational system characterised by 'passive' learning into one which has an ethos of active engagement in the classroom (Chen, 2016). Research suggests that South-East Asian students conform to the high-context communication style developed within a predominantly teacher-led educational framework; they thus find it particularly difficult to adjust to a student-centred classroom environment that reflects the low-context communication style prevalent in countries such as Australia (Burgoon, 2009; Carroll & Ryan, 2007; Hofstede, 1991). These are students from collectivist cultures that tend to only speak up if "the group allows it, or a teacher requests a specific student to speak" (Kim, 2012: 536). Language barriers and a lack of experience in multicultural group discussions further hinder their active participation in learning activities and make it difficult for them to make friends with local students (Schartner and Cho, 2017; Yuan, 2011). Resultant differences in classroom participation have been said to lead to tensions between home and international students, as well as lower levels of student satisfaction amongst both groups (Dean, 2011). This presents a number of pedagogical challenges for educators who endeavour to support the diverse learning needs of an increasingly cosmopolitan student cohort.

## 1.2 The advantages of ICT-enhanced learning

There is a long history of UK educational institutions developing and utilising interactive teaching methods to promote active student engagement in classrooms. Traditional approaches such as structured discussions, role-play exercises, and problem-based learning, were typically well-received by both teachers and learners (Althea, 2005; Kodotchigova, 2002; Armbruster, et.al.; 2009). The introduction of ICTs into classroom settings offers new possibilities for addressing the different learning styles and requirements of an increasingly diverse student body (Bates, 2015). There has already been some evidence to suggest that the use of learning technologies in educational contexts can improve academic performance in areas such as reading, mathematics, and science subjects (Biagi & Loi, 2013). Research suggests that online discussion boards and social media platforms such as Facebook are increasingly adopted by educators to help students develop collaborative learning skills (Lam, 2015). These tools also appear to have the potential to transform how knowledge is produced within these contexts. For example, several studies have shown how the use of ICTs to provide educational resources can encourage greater reflective thinking and knowledge construction among students (Hyerle & Alper, 2011; Wee, et al., 2013; Eppler, 2006). Innovative visual methods, such as mind mapping software, have also been found to encourage students to become more active participants in lectures and seminars (Nageswari, et. al; 2004; Wee, et. al., 2013). However, thus far there has been very little research investigating how the affordances of ICTs can be leveraged to support intercultural communication and learning within HEIs. Although scholars have frequently extolled the virtues of educational technology in empowering diverse learners (Lock & Kingsley, 2007), much of the empirical research to date has focused on how these technologies are deployed in schools and secondary level education (Hall, 2005; Dalton et. al, 2011; Roman,

2019). There has also been a dearth of research examining how students themselves use ICTs to self-organise and collaborate with their classmates on assignments.

### 1.3 ICTs and Intercultural communication

This study set out to examine how ICTs can be used by international students to facilitate intercultural communication, defined here as a “symbolic, interpretive, transactional, contextual process in which people from different cultures create shared meanings” (Lustig and Koester, 2007:46). The limited evidence to date from the Higher Education sector has suggested that the aforementioned language barriers and cultural differences significantly hinder intercultural communication. Most notably, a mixed methods study conducted on an Australian university campus suggested that the low quality interactions between Chinese and local students had a negative impact on their motivations for future intercultural interactions (God and Zhang, 2018). Following on from the aforementioned evidence suggesting ICTs can empower learners, there has been a renewed focus on how HEIs can foster intercultural communicative competencies (ICC) amongst their increasingly international student cohorts. The model of ICC articulated by Byram (1997), which outlines five competencies including the skill to interpret events from other cultures and applying them to one’s own and the ability to critically evaluate viewpoints and practices from both, has invariably been operationalised in much of this research. A systematic review of 26 studies found that digital tools such as online discussion boards, blogs and podcasts helped students develop greater awareness of the perspectives of their classmates from other cultures, albeit that this newly discovered cultural understanding was often very superficial and there was much variability among the participants in terms of ICC (Çiftçi, 2016). Blogs in particular have been identified as having the potential to help international students overcome their anxiety over their perceived low proficiency in spoken English while simultaneously allowing them to learn about new cultural practices and develop ICC (Elola and Oskov, 2010; Nam Kim, 2012). A recurring theme in these studies was that teachers should integrate these technologies into classroom activities and provide instructions in order to maximise the benefit of this intercultural communication. For example, the use of Instant Messaging tools such as Yahoo Messenger in classes was said to have made foreign language learners more sensitive towards intercultural differences (Li and Erben, 2007). This paper will build on this work by exploring how international students use ICTs for self-organised asynchronous communication within multicultural groups, as they work on their assignments.

## 2. Methodology

This qualitative study investigates the use of ICTs to facilitate intercultural communication between international students at the University of Sheffield. According to the University of Sheffield (2019), international students account for 32% of the total student population; they mostly come from Asian countries such as China (62%) and Malaysia (4%). This is broadly congruent with the UK university sector, where the majority of international students come from East Asian countries (HESA, 2020). A recurring issue raised at teaching committees at the University of Sheffield has been the intercultural communication barriers faced by international students during group work activities; these manifest themselves in silence during group discussions, dominance of native English speakers and ‘free-rider’ issues, all of which are reflected in the literature in this area (Dean, 2011). It is worth highlighting that intercultural

adaptation should not be one-sided; both international and home students need to make efforts in order to break down barriers within multicultural groups. However, for the purpose of this research project, we focussed on the perspectives of international students and the role of ICTs in supporting their intercultural communication within self-organised groups. Specifically, there were three research questions that emerged from the preceding literature review:

RQ1: What were the key factors hindering intercultural communication identified by international students?

RQ2: To what extent were ICTs being used by these students to develop intercultural communicative competencies?

RQ3: What barriers did these students encounter when using ICTs to collaborate with multicultural groups on their assignments?

These questions were investigated through a focus group study of international students based at the University of Sheffield in August 2019. A total of ten postgraduate students, nine from China and one from Malaysia, were recruited via a university email distribution list to participate in two one-hour focus groups held on the university campus. The first focus group consisted of six students, three female and three male, and the second contained four participants (two female, two male). All were aged between 21 and 24 years old and were enrolled in postgraduate courses in the field of Library and Information Science such as Data Science, Information Management and Information Systems.

A semi-structured interview schedule containing 12 questions was developed by the researchers in order to examine the challenges these participants faced in relation to intercultural communication when working in multicultural groups, as well as the role of ICTs in addressing these language and cultural barriers. Each participant was asked to reflect on the perceived value of working with classmates from different cultures and the ways in which they developed ICC. Both focus groups were recorded, transcribed and analysed using the six phases of Thematic Analysis proposed by Braun and Clarke (2006), including data familiarisation, coding, and the identification of themes. The participants are identified below according to gender and their allocated group; this anonymisation was in accordance with the Ethics application approved by the University in July 2019 prior to emails being sent out to the entire postgraduate cohort at the University.

### **3. Results**

A number of barriers were identified from our study, including students' perceived low language proficiency and limited experience of group work in their host countries. Nevertheless, our data suggested that international students value opportunities to work with members from other cultures, as they allow them to develop skills to overcome the aforementioned barriers and befriend people from other cultures. The use of ICTs by international students (e.g. selection of ICT software, emojis) illustrates how students are aware of ICC despite the communication barriers within their groups.

#### **3.1 Language identified as the main barrier to intercultural communication**

The study provided further evidence of how perceived low proficiency in spoken English left international students unable to fully contribute during discussions in lectures and seminars. Previous research has indicated that Chinese students in particular are more likely to stay silent in group discussions due to the fear of 'losing face' or being embarrassed in public (Zhang & Brunton, 2007; Zhang, 2004). A recurring theme in both focus groups was that these students were frustrated by their inability to clearly express their ideas in spoken form using English. Indeed, several explicitly stated that they were not shy when participating in groups that used their 'mother tongue':

"I agree that language is the biggest barrier. No I'm not shy. I wanted to express more but sometimes it's really difficult for me to express my ideas in English. Yeah so, if I'm not clear what I'm going to say so I'd rather keep silent." (Female participant 1, Focus group 1)

"Yes. If you are in your mother language it always makes more sense. You don't need to wait and just keep smiling." (Male participant 2, Focus Group 1)

All of the participants agreed that they struggled more with their spoken English than listening or reading in that language. This meant that in practice it was harder for them to understand subject-specific terminology used by native English speakers in their groups. A related issue was that they often found themselves unable to explain their own analysis of key concepts in classes :

"I think this is [language] the biggest problem because sometimes when we discuss I need to describe something. I need to say some detail [sic] about the knowledge of our major. We know about everything. But when I used English to describe it is very hard .... When I read, I understand it. When I listen I can understand but when I say it I will always ask what. So it is hard for me to express my thinking." (Male Participant 1, Focus group 1)

"There's still some barriers like, I don't know how to pronounce like some specific word...So we just try to use different actions, like hands or other moves to express our ideas." (Male participant 3, Focus group 1)

### 3.2 Limited experience working in multicultural groups leads many to defer to Home students

With the exception of one student who had studied briefly in the US, the consensus amongst these participants was that they had limited experience of working within groups on assignments during their undergraduate degrees in their countries of origin:

"I don't have any experience with group work before I came here."

(Female participant 2, Focus group 1)

The few participants who had experience of working in groups reported that they were monocultural in nature, thus making it easier for them to communicate in the same language:

"For me is [sic] not a lot, because all my work or experiences just work myself. Uh. And uh I used to attend some courses that is like a group discussion uh [sic]. But it's all Chinese. So we are all in the same language." (Male participant 1, Focus group 2)

This lack of experience, combined with a perceived lack of confidence in their spoken English, meant they were reluctant to lead multicultural groups during their postgraduate study. They typically took a supporting role and constantly deferred to British students within their groups, who invariably took leadership roles:

"During semester one, we had a group of tasks...We had five people. Four Chinese one was British and she organises all of these tasks. Yeah. And she gave us a lot of the ideas and shows us a big

picture and shows us a lot of things...I think maybe we just do the 40 percent. And after that, I always do my best in my report work because I think I need to do lots of things like her.” (Male participant 3, Focus group 1)

One interpretation of this finding was that international students from collectivist, teacher-led educational contexts were learning from their classmates familiar with the low-context communication styles of UK universities. They perceived that they were more likely to achieve high grades in their assignments if they followed the lead of these British students. Yet, there was also an acknowledgement of the ‘free rider’ problem that frequently beset these group tasks. Several students recounted examples of groups in which workloads were unevenly distributed due to the failure of individuals to attend meetings and contribute when required.

### 3.3 Clear benefits of working within multicultural groups despite language barriers

Despite these barriers to intercultural communication, all participants were enthusiastic about the opportunities to work in multicultural groups during their postgraduate studies in the UK. The four main benefits were that it helped them develop their proficiency in spoken English, befriend students from different cultures, learn about new perspectives and ideas, and become more sensitive towards intercultural differences. While not underestimating the often considerable difficulties associated with intercultural communication as a result of their lack of proficiency in spoken English, participation in group discussions was a prerequisite for developing ICC. Hence, they were aware of the importance of using English at all times in order to ensure that students from other cultures were not excluded and to help them build social connections that lasted beyond these classes:

“I feel because we have like many more multicultural students and they have different languages. So we try to use the english to communicate and we both during this experience we can improve our language skills during the discussion.” (Male participant 1, Focus group 2)

“I think it's very great things and during the British multicultural group discussion we can improve our language and make friends with people from different culture...we try to understand each other based on this project because we use this project as a connection to link our each other.” (Male Participant 2, Focus group 2)

There was also some evidence to corroborate the claims of previous research suggesting that intercultural differences might lead to more conflictual group dynamics (Buffinton & Jablow, 2002). However, the participants positively reflected on their experiences of such conflict and felt that they helped develop the critical thinking skills associated with ICC. In effect, they believed that interactions with students from different cultures resulted in more creative and effective problem-solving:

“I enjoy multicultural because with multicultural I always can know things and you think things from different aspects, different angles.” (Female participant 3, Focus group 1)

“I support multicultural groups because our experiences are different[...]in different cultures[...]So based on these different experiences we are thinking of different ways of solving problems. It is different and the tools we use may be different as well. So these differences can raise a lot of new ideas sometimes... I think my idea is good but they can give a better one. So it's really... it helps to find some new way to solve some problems.” (Male participant 1, Focus group 1)

This was one of several implicit references to the five competencies identified by Byram (1997) in the focus groups. Most notably, several students felt they had developed a more open attitude towards cultural diversity as a result of this multicultural group work:



“Yeah. I really found difference [sic] from you know between Chinese students and other students from other countries. And what I see is that we Chinese do it in one focus in the now, not process. But for, you know, students from Western countries they are kind of more focus [sic] on the process.” (Female participant 1, Focus group 1)

“Knowing that everybody's from a different culture you're maybe a bit more forgiving in terms of problems that may arise and you can figure that maybe it's something that we just have to understand the other person from. It's I think more so than if you were coming from the same culture and you expect everybody to be the same way.” (Female participant 3, Focus group 1)

In sum, one of the advantages of studying in the UK for these participants was this exposure to intercultural differences and new ways of thinking about their respective academic subjects. They were keen to improve their spoken English in order to further benefit from these opportunities to enhance their ICC.

### 3.4 Instant Messaging Apps play a key role in facilitating communication within multicultural groups

Instant Messaging (IM) apps were the most popular ICT amongst these participants when it came to the facilitation of group work. Congruent with previous research (Çiftçi, 2016), there was little evidence that these students were using online platforms such as Twitter and Weibo to communicate with their classmates about their coursework. All participants reported that they used apps such as WeChat and WhatsApp to share information about their assignments, allocate tasks, and arrange face-to-face group meetings on campus. There was some evidence of sensitivity towards different cultures, a key component of ICC, in the choice of which IM to use to plan this work. Although WeChat was by far the most popular communication tool among the Chinese students, they consciously used WhatsApp and other IM apps to ensure that non-Chinese students were included in these group chats.

“If we have each other students from other countries and we use WhatsApp and if not all Chinese students then we use wechat.” (Female participant 2, Focus group 1)

“I think I use two different social media to communicate with different people because of Korean friends they're used to the KakaoTalk. So I must use the KakaoTalk to talk with a Korean friend. I now use the Facebook and Instagram to communicate with the British friend or friends from all over the world. And I have WeChat to talk with my friends.” (Female participant 1, Focus group 2)

In several instances, this required Chinese students to download new apps such as WhatsApp and learn how to use them to negotiate the arrangements for group meetings and allocate tasks:

“We use different social media applications and when we... in one group we have to use whatsapp. I don't use Whatsapp before. So we have to download it and just say "when is the next meeting". The next week's objectives will be...but we don't talk about other things.” (Female participant 1, Focus group 2)

This created a situation where many continued to exchange messages on a variety of topics in their native languages on WeChat while simultaneously using English on WhatsApp to engage within their multicultural groups:

“We use WhatsApp is mostly to discuss at what time we meet with each other and in which room. Yeah, it's like this. Not discuss some detailed things related to our topic but in wechat because we are more free to speak Chinese so we can discuss some you know more details things related to the topic.” (Female participant 2, Focus group 1)

While there was general enthusiasm for the use of ICTs to facilitate asynchronous communication within multicultural groups, several participants argued that it was a poor substitute for face-to-face meetings. In particular, the use of IM apps was said to have little impact on the ‘free rider’ problem, which saw some students contribute much less to group tasks than their peers and yet receive the same grade’ issues. There was also a sense that face-to-face communication was the best way to ensure there were no misunderstandings between group members:

“I have to say I really have a bad experience on this because for my group member the guy clearly not [sic] feel enjoyable coming and discuss [sic] with other groups. ...So we use like [sic] videos or emails or WeChat to get his points when he was working from home but it was really difficult to understand his points because we don't have any like face to face communication.” (Male participant 2, Focus group 2)

### 3.5 Cultural sensitivity in the use of emojis

The cultural sensitivity demonstrated by the participants whilst working in multicultural groups was illustrated by their use of emojis, those digital icons used to express emotion in electronic messages. Previous research has suggested that they can modify the meaning of their accompanying text and carry culturally specific sentiments that resonate with their recipients (Cheng, 2017; Tian et al. 2017). The results of this study suggested that emojis were commonly used in WeChat messages shared between Chinese students, allowing them to build connections with each other quickly:

“Because in China we can make those stickers by ourselves and you also can download some Internet sticker and some funny and interesting picture and make the sticker...I think in China WeChat sticker it has [sic] just become a kind of sticker culture. And this sticker is very interesting and many young people use stickers.” (Female participant1, Focus group 2)

Participants were aware that many of their classmates might not pick up on the culturally specific meanings of emojis and worried that their use might cause offence to some:

“I wouldn't know if it is sensitive to foreigners because like Middle Eastern or European I don't know whether is [sic] sensitive to them. Because I think I might mean this but maybe if you reached that is sensitive for them.” (Female participant 2, Focus group 2)

“But I think if there are foreigner classmates chatting in WeChat and we send those stickers, I think they don't really understand what we said.” (Female participant 3, Focus group 1)

This meant that in practice many participants chose only to use emojis that there was little chance of being misunderstood, such as smileys and thumbs up emoticons.

### 3.6 Translation tools used to facilitate face-to-face communication in groups

The study also found evidence of how ICTs were used to support synchronous communication between these international students and their peers from other countries. The majority of the participants had used online translation tools such as Google Translate during their group meetings. As discussed earlier, international students often struggle with language barriers and use these tools to find out the meaning of subject specific terminology, as well as colloquialisms used by their classmates. However, the participants were also aware of the limitations of these tools and several acknowledged that they weren't always accurate:

“Yeah sometimes. For you know the specific terms I didn't know to express in English then I use the translation tool. But most of the time not.” (Female participant 2, Focus group 1)

“we use Google Translate and maybe he or she will type the sentence in the google translate. And you know the google translator can translate this sentence immediately. So we can say "Oh I understand google translate exactly" but sometimes, you know, Google Translate is not totally accurate. So I would have to explain again.” (Female participant 1, Focus group 2)

This showed how even those participants who extolled the virtues of using ICTs to overcome language barriers were aware of their inherent limitations in facilitating intercultural communication.

#### 4. Discussion

The study provided further evidence of the multiple barriers towards intercultural communication experienced by international students in the UK, ranging from a perceived lack of proficiency in spoken English to a dearth of experience working in groups to complete assignments. A combination of these factors made it much harder for Chinese students to contribute to group discussions, which was consistent with the findings of previous research exploring barriers to international student acculturation (Schartner and Cho, 2017; Yuan, 2011). Understanding these factors is important for UK Higher Education institutions in supporting students from collectivist cultures and encouraging their active participation in lectures and seminars (Chen, 2016; Carroll & Ryan, 2007). Nevertheless, our research indicates that international students value opportunities to work with their classmates from different cultures and perceive that it allows them to develop ICC. Contrary to previous research suggesting Chinese students are likely to stay silent due to cultural barriers such as the fear of embarrassment (Zhang & Brunton, 2007; Zhang, 2004), our study suggests that language barriers are the main reason why they don't actively participate in classes. Our results highlight a potential danger of categorising Chinese students as 'shy' participants rather than active learners who are determined to tackle challenges during the intercultural learning process.

There was much enthusiasm for the use of ICTs to facilitate intercultural communication between international students in the UK. Whereas much of the previous research has focused on teacher-led technological interventions, this study provided new empirical evidence of how students used digital technology for self-organised asynchronous communication that supported their learning. As per previous studies of technologically enabled intercultural communication within HEIs (Hyerle & Alper, 2011; Wee, et al., 2013; Eppler, 2006), this did not mean that these participants were using online platforms such as Facebook, Twitter, and Sina Weibo to talk about their assignments with their classmates. Rather, IM apps such as WeChat and WhatsApp were the most popular ICT due to their use to facilitate asynchronous communication between classmates from different cultures, which helped with the allocation of group tasks and the organisation of individual workloads.

Moreover, students demonstrated ICC in their choice of IM Apps to facilitate group discussions outside of the classroom. Although WeChat was clearly the most popular communication tool amongst our participants, many decided to use WhatsApp when working in multicultural groups. Nevertheless, Chinese students reported that they had more in-depth, higher quality discussions within monocultural groups on WeChat; WhatsApp, in contrast, was mainly used to set objectives and schedule face-to-face meetings within multicultural groups. It is worth noting that a *perception* that such interactions were low quality might have a negative impact on students' motivation for future intercultural interactions (God and Zhang, 2018).

Our results showed how tools such as Google Translate were utilised by Chinese students to ensure that they understood key terms and colloquialisms used by British students during group meetings held on campus. Congruent with the ICC model articulated by Byram (1997), there was a sophisticated understanding of the limitations of using such tools to overcome cultural and language barriers; the participants were also acutely aware of the importance of critically evaluating their own cultural practices and reflecting on how they were interpreted by others. Most notably, the use of emojis was viewed by the participants as potentially problematic given that many of these icons had culturally specific meanings that might be misunderstood by students from other cultures. This corroborates the research of Li and Erben (2007), which suggested that the use of Instant Messaging tools made learners more sensitive towards intercultural differences. It also provides further evidence of how students are increasingly aware of the cultural peculiarities of using emojis and emoticons, and carefully deploy them when communicating with people from different countries on IM apps and online platforms (Spires et. al, 2018). Smileys and thumbs up were unlikely to cause offence or be misinterpreted by students from different cultures.

## **Conclusion**

This paper adds to the emergent literature on the use of ICT-enhanced learning in higher education by empirically investigating the use of ICTs to facilitate intercultural communication between international students in the UK. Multiple barriers towards intercultural communication experienced by international students were identified including language barriers and a lack of experience working in multicultural groups. Results indicate that Instant Messaging apps, such as WeChat, WhatsApp, and translation tools were frequently used by students to overcome these barriers in self-organised asynchronous communication environments. While students were generally enthusiastic about the use of ICTs to facilitate intercultural communication in HEIs, it was recognised that ICT-enabled communication was inferior to face-to-face contact when it comes to intercultural communication and the development of ICC. Future research should build on the results of this study by qualitatively and quantitatively examining the role of IM apps in fostering ICC amongst international students within HEIs, both in the UK and other educational systems. Studies to develop approaches and carry out a mixed-method analysis of student's use of ICTs in fostering ICC would be beneficial. The participants of this research were primarily Chinese International students of information-related disciplines, who arguably could be more tech-savvy compared to participants of other disciplines. Future research could also look at a stratified sample of international students to explore ICC and recruit participants of other disciplines. Since intercultural communication is a two-way dialogue, future research should also examine the perspectives of home students who may face different intercultural barriers than international students when working across cultures.

## **References**

- Althea M., N. P. (2005). A comparison of teaching strategies: lecture notes combined with structured group discussion versus lecture only. *Journal of Nursing Education*, 44(7), 319.
- Andrade, M. S. (2006). International students in English-speaking universities: Adjustment factors. *Journal of Research in International Education*, 5(2), 131–154.

- Arenas, E. (2015). Affordances of learning technologies in higher education multicultural environments. *Electronic Journal of E-Learning*, 13(4), 217-227.
- Armbruster, P., Patel, M., Johnson, E., & Weiss, M. (2009). Active learning and student-centered pedagogy improve student attitudes and performance in introductory biology. *CBE—Life Sciences Education*, 8(3), 203-213.
- Biagi, F., & Loi, M. (2013). Measuring ICT use and learning outcomes: Evidence from recent econometric studies. *European Journal of Education*, 48(1), 28-42.
- Bates, A.W. (2015) *Teaching in a Digital Age: Guidelines for Designing Teaching and Learning*. Vancouver: Tony Bates Associates Ltd.
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative research in psychology*, 3(2), 77-101.
- Buffinton, K. W., Jablowski, K. W., & Martin, K. A. (2002). Project team dynamics and cognitive style. *Engineering Management Journal*, 14(3), 25-33.
- Burgoon, J. K. (2009). Expectancy violation theory. In S. W. Littlejohn, & K. A. Foss (Eds.), *Encyclopedia of communication theory* (pp. 367–369). Thousand Oaks, Calif. : Sage.
- Byram, M. (1997). *Teaching and assessing intercultural communicative competence*. Clevedon, UK: Multilingual Matters.
- Carroll, J., & Ryan, J. (Eds.). (2007). *Teaching international students: Improving learning for all*. London: Routledge.
- Chen, Y. (2016). Investigation of Chinese Students' Passive Learning in EAP Classroom. *US-China Foreign Language*, 14 (5), 357-363.
- Cheng, L. (2017). Do I mean what I say and say what I mean? A cross cultural approach to the use of emoticons & emojis in CMC messages. *Fonseca*, (15), 207-226.
- Çiftçi, E. Y. (2016). A Review of Research on Intercultural Learning through Computer-Based Digital Technologies. *Journal of Educational Technology & Society*, 19 (2), 313–327.
- Dalton, B., Proctor, C. P., Uccelli, P., Mo, E., & Snow, C. E. (2011). Designing for diversity: The role of reading strategies and interactive vocabulary in a digital reading environment for fifth-grade monolingual English and bilingual students. *Journal of Literacy Research*, 43(1), 68-100.
- Dean, A.A. (2011). *Improving the educational experience of HLST students in Higher Education*. The Higher Education Academy. York: Hospitality, Leisure, Sport and Tourism Network.
- Elola, I., & Oskoz, A. (2010). Blogging: Fostering intercultural competence development in foreign language and study abroad contexts. *Foreign Language Annals*, 41, 454–477.
- Eppler, M. J. (2006). A comparison between concept maps, mind maps, conceptual diagrams, and visual metaphors as complementary tools for knowledge construction and sharing. *Information visualization*, 5(3), 202-210.
- Gray, K., Chang, S., & Kennedy, G. (2010). Use of social web technologies by international and domestic undergraduate students: implications for internationalising learning and teaching in Australian universities. *Technology, Pedagogy and Education*, 19(1), 31-46.
- God, Y. T., & Zhang, H. (2019). Intercultural challenges, intracultural practices: How Chinese and Australian students understand and experience intercultural communication at an Australian university. *Higher Education*, 78(2), 305-322.

- Hall, I., & Higgins, S. (2005). Primary school students' perceptions of interactive whiteboards. *Journal of Computer assisted learning*, 21(2), 102-117.
- Hofstede, G. (1991). *Cultures and organizations : software of the mind*. London: McGraw-Hill.
- Hyerle, D. N., & Alper, L. (Eds.). (2011). *Student successes with thinking maps®: school-based research, results, and models for achievement using visual tools*. London: Corwin Press.
- Higher Education Statistics Agency [HESA]. (2018). Higher Education Student Statistics: UK, 2016/17 - Where students come from and go to study. Retrieved MAY 12, 2019, from <https://www.hesa.ac.uk/news/11-01-2018/sfr247-higher-education-student-statistics/location>
- Higher Education Statistics Agency [HESA]. (2020). Higher Education Student Statistics: UK, 2018/19 - Where students come from and go to study. Retrieved November 05, 2020, from <https://www.hesa.ac.uk/news/16-01-2020/sb255-higher-education-student-statistics/location>
- Kodotchigova, M. A. (2002). Role play in teaching culture: Six quick steps for classroom implementation. *The Internet TESL Journal*, 8(7).
- Lam, J. (2015). Collaborative learning using social media tools in a blended learning course. *Proceeding of the International Conference on Hybrid Learning and Continuing Education* (pp. 187-198). Springer, Cham.
- Li, J., and Erben, T. (2007) Intercultural Learning via Instant Messenger Interaction. *CALICO Journal*, 24( 2), 291-311.
- Lock, R. H., & Kingsley, K. V. (2007). Empower diverse learners with educational technology and digital media. *Intervention in school and clinic*, 43(1), 52-56.
- Lustig, M. W., & Koester, J. (2007). *Intercultural competence: interpersonal communication across cultures* (5th ed.). Shanghai: Shanghai Foreign Language Education Press.
- Meier, G., & Daniels, H. (2013). 'Just not being able to make friends': social interaction during the year abroad in modern foreign language degrees. *Research Papers in Education*, 28(2), 212-238.
- Nageswari, K. S., Malhotra, A. S., Kapoor, N., & Kaur, G. (2004). Pedagogical effectiveness of innovative teaching methods initiated at the Department of Physiology, Government Medical College, Chandigarh. *Advances in physiology education*, 28(2), 51-58.
- Kim, H. N. (2012). Model of blogging structure for intercultural communication environments in higher education. *Interactive Learning Environments*, 20(6), 533-546.
- Russell group (2017). The value of international students at Russell Group universities. Retrieved on 11th May 2019 from <https://www.russellgroup.ac.uk/media/5521/rg-international-students-june-2017.pdf>
- Schartner, A., & Cho, Y. (2017). 'Empty signifiers' and 'dreamy ideals': perceptions of the 'international university among higher education students and staff at a British university. *Higher Education*, 74(3), 455-472.
- University of Sheffield (2020). Institutional and Department student profiles. Retrieved October 26, 2020, from [https://apexlive.shef.ac.uk/pls/apex/f?p=136:1:::NO:1:P1\\_YEAR\\_LIST:2019](https://apexlive.shef.ac.uk/pls/apex/f?p=136:1:::NO:1:P1_YEAR_LIST:2019)
- Spires, H. A., Paul, C. M., Himes, M., & Yuan, C. (2018). Cross-cultural collaborative inquiry: A collective case study with students from China and the US. *International Journal of Educational Research*, 91, 28-40.

- Tian, Y., Galery, T., Dulcinati, G., Molimpakis, E., & Sun, C. (2017). Facebook sentiment: Reactions and emojis. *Proceedings of the Fifth International Workshop on Natural Language Processing for Social Media* (pp. 11-16).
- UK Council for International Student Affairs [UKCISA] (2016). International student statistics: UK higher education. Retrieved February 24, 2019, from <https://www.ukcisa.org.uk/Research-Policy/Statistics/International-student-statistics-UK-higher-education>
- Urban, E. L., & Palmer, L. B. (2014). International Students as a Resource for Internationalization of Higher Education. *Journal of Studies in International Education*, 18(4), 305–324.
- Wee, B., DePierre, A., Anthamatten, P., & Barbour, J. (2013). Visual methodology as a pedagogical research tool in geography education. *Journal of Geography in Higher Education*, 37(2), 164-173.
- Yuan, W. (2011). Academic and cultural experiences of Chinese students at an American university: a qualitative study. *Intercultural Communication Studies*, 20(1), 141–157.
- Zhang, R. (2004). Using the principles of Exploratory Practice to guide group work in an extensive reading class in China. *Language Teaching Research*, 8(3), 331-345.
- Zhang, Z., & Brunton, M. (2007). Differences in living and learning: Chinese international students in New Zealand. *Journal of Studies in International Education*, 11(2), 124-140.