

ELT Research Papers 17.05

What is the impact of study abroad on oral fluency development? A comparison of study abroad and study at home

Zöe Handley and Haiping Wang

ELT Research Papers 17.05

What is the impact of study abroad on oral fluency development? A comparison of study abroad and study at home

Zöe Handley and Haiping Wang

ISBN 978-0-86355-880-1

© **British Council 2018** Design/H136

10 Spring Gardens
London SW1A 2BN, UK

www.britishcouncil.org

Contents

About the authors.....	3
Abstract.....	5
1 Introduction.....	7
2 Study abroad and oral fluency development.....	9
2.1 Defining oral fluency	9
2.2 The value of study abroad.....	10
3 Key methodological details.....	13
3.1 Participants.....	13
3.2 Learning contexts	13
3.3 Design and instruments	13
3.4 Measures of oral fluency.....	15
4 Key findings.....	17
4.1 Oral fluency development	17
4.2 Language contact.....	20
4.3 Relationship between language contact and oral fluency development.....	22
5 Discussion.....	23
6 Conclusion	25
References.....	27
Acknowledgements	29

About the authors

Zöe Handley is a Senior Lecturer in Language Education at the University of York. Her research falls into two main areas: second language speech production, including fluency and pronunciation, and computer-assisted language learning, including the use of speech technologies and computer-mediated communication in support of language learning and teaching.

zoe.handley@york.ac.uk

Haiping Wang is a Lecturer in Language Education at East China University of Political Science and Law. Her research falls into two main areas: language testing, including validation research on listening, reading and speaking assessment, and forensic linguistics, including courtroom discourse analysis and the use of multimodal analysis in the research of courtroom discourses.

cathy_pingcn@163.com

Abstract

Developing fluency in spoken English is perhaps the most frequently cited reason for choosing to study for a degree in an English-speaking country, where fluency refers to speaking at a good pace without pausing or hesitating. Some research supports conventional wisdom that the practice offered during study abroad promotes the development of fluency in this sense. However, the evidence is largely limited to studies tracking a single cohort of students, with few studies comparing study 'at home' with 'study abroad'. Most previous studies involved US undergraduate students with as little as two semesters of prior language instruction enrolled on a semester-long intensive language programme in France or Spain. Few, if any, studies have involved international students enrolled on a degree programme, where the focus is on gaining subject knowledge rather than on improving language skills. This paper explores the impact of studying for a degree among a group of Chinese master's students. This group of students is particularly interesting. While they have more language experience prior to the start of their programmes than those in most other studies, they typically express difficulties developing friendship with local students due to cultural differences. This paper explores this

question through a study focusing on Chinese master's students. A total of 73 Chinese learners of English participated in the study. Of these, 34 (zero male, 34 female) were studying for a master's at a university in the north-east of England, and 39 (seven male, 32 female) were studying for a master's at a university in east China. The learners were asked to complete an IELTS-style monologic narrative speaking task and a language contact questionnaire – once at the start of their master's programme and once six months later. On average the learners in both contexts made small gains in oral fluency from time 1 to time 2. Learners studying in the UK made gains on measures of speed and learners studying in China made gains on measures of breakdown fluency (i.e. pausing). These gains were, however, not statistically significant, nor was the difference in gains across the two contexts. Interestingly, it was also observed that learners in the UK who spent more time interacting in English spoke slower and paused for longer, but paused less often. Together these results suggest that the findings of previous research may not be generalisable to all contexts, and that further research is necessary focusing on different formats of study abroad and with different cohorts of learners.

1

Introduction

The number of international students enrolling on degree programmes in ‘inner circle’ countries, i.e. the UK, the US, Australia, New Zealand and Anglophone Canada (Kachru, 1992), has been rising year on year (British Council, 2015). Welcoming over 300,000 students in 2015–16 (UKCISA), the UK is the second most popular destination for international students after the US (British Council, 2015). Developing fluency in spoken English is one of the most frequently cited reasons for choosing to study for a degree in an English-speaking country (Eder et al., 2010). CEFR B1 (independent user), equivalent to IELTS 5.5 (IELTS, 2017), is the minimum requirement for entry to degree programmes in the UK (UK Visas and Immigration, n.d.). Students at this level should be able to ‘understand the main ideas of complex text’ and ‘deal with most situations likely to arise whilst travelling in an area where the language is spoken’, but are not yet able to ‘understand with ease virtually everything heard or read’ and ‘express him/herself spontaneously’ (Verhelst et al., 2009: 5). In other words, it might be said that students at this level have already achieved fluency in the broad sense of communicative competence (Lennon, 1990), but still have gaps in their understanding and cannot express themselves at a good pace without pausing or hesitating, i.e. are not fluent in the narrow sense of the term (*ibid.*). A number of studies provide evidence to support conventional wisdom that the practice offered during study abroad (DeKeyser, 2007) promotes the development of oral fluency

in the latter narrower sense (e.g. Freed, 1995b; Freed et al., 2004; Llanes and Muñoz, 2013; O’Brien et al., 2007; Segalowitz and Freed, 2004). However, this evidence is largely limited to studies which have tracked a single cohort of students (e.g. Du, 2013; Leonard and Shea, 2017; Towell et al., 1996). And crucially, most previous studies involved US undergraduate students with as little as two semesters of prior language instruction enrolled on a semester-long intensive language programme in France or Spain (e.g. O’Brien et al., 2007; Segalowitz and Freed, 2004). Few, if any, studies have involved international students enrolled on a degree programme, where the focus is on gaining subject knowledge rather than on improving language skills. Moreover, international students enrolling on such programmes tend to have significantly more language experience prior to the start of their stay, and may express difficulties developing friendship with local students due to cultural differences (Spencer-Oatey et al., 2016). This paper explores this question and examines the role language contact (the amount of time learners spend interacting in the target language outside class) plays in oral fluency development through a study focusing on Chinese master’s students. Specifically, the study takes the form of a natural experiment comparing Chinese students studying for a master’s in the UK with a similar cohort of students studying for a master’s in China.

2

Study abroad and oral fluency development

The value of study abroad, the combination of ‘a period of residence in another country or province with classroom based language and/or content study’ (Freed, 1995a: 5), is widely believed to promote oral fluency development because it provides intensive exposure to, and opportunities to interact in, the target language. The literature review which follows surveys the current evidence in support of that claim. First, however, it is necessary to clarify what we mean by oral fluency in this paper.

2.1 Defining oral fluency

More often than not, when you hear someone compliment a second language learner on their fluency, they are referring to their overall proficiency in the target language. People may, however, also be heard to say that a learner ‘[is] fluent but grammatically inaccurate’ or ‘fluent but lacks a wide and varied vocabulary’ and ‘speak[s] correctly but not very fluently’ (Lennon, 1990: 390). In other words, fluency is used with two main meanings. On the one hand, it is used in a broad sense to refer to oral proficiency or communicative competence. On the other hand, it is used in a narrow sense to refer to a component of proficiency, namely ‘temporal aspects of oral production that influence the degree of fluidity in speech

(e.g., pauses, hesitation phenomena, speech rate)’ (Derwing et al., 2009: 534).

As mentioned above, it might be assumed that international students enrolled on undergraduate and postgraduate programmes in the UK are already fluent in the broad sense, and what they aim to acquire during study abroad is fluency in the narrow sense. This study therefore focuses on fluency in the narrow sense, i.e. fluency as a ‘temporal phenomenon’ (Schmidt, 1992) – henceforth (oral) fluency is used to refer to fluency in this narrow sense, while proficiency is used to refer to fluency in the broad sense.

Focusing in on oral fluency, a wide range of different measures have been developed to capture the different indicators highlighted in Derwing et al.’s (2009: 534) definition: ‘temporal aspects of oral production that influence the degree of fluidity in speech (e.g., pauses, hesitation phenomena, speech rate)’. These measures have been classified into *holistic measures*, measures of *speed fluency* (rate of delivery), measures of *breakdown fluency* (the extent of interruptions), and measures of *repair fluency* (the number of self-corrections and repetitions) (Segalowitz, 2010). Definitions of the most commonly employed measures are provided in Table 1.

Table 1: Measures of oral fluency (based on Kormos and Denés, 2004)

Dimension	Measure	Definition
Holistic	Pruned speech rate	Total number of syllables minus self-corrections, self-repetitions, false starts, non-lexical filled pauses, and asides divided by total time
Speed fluency	Speech rate	Total number of syllables divided by total time
	Articulation rate	Total number of syllables divided by phonation time, i.e. total time minus unfilled pauses
	Mean syllable duration	Total number of syllables divided by phonation time, i.e. total time minus unfilled pauses
Breakdown fluency	Pauses per minute	Total number of pauses including filled as well as unfilled pauses, divided by total time
	Average pause duration	Total pause duration, including filled as well as unfilled pauses, divided by the total number of pauses, including filled as well as unfilled pauses
	Mean length of run	Total number of syllables minus filled pauses divided by the number of pauses, including filled as well as unfilled pauses
Repair fluency	Repairs per minute	Total number of self-corrections, self-repetitions and false starts divided by phonation time

2.2 The value of study abroad

Research on the impact of study abroad on oral fluency can be traced back to the early 1980s (see Freed, 1995a and Coleman, 1998 for a review of early research). Early studies, however, tended to focus on proficiency measured through oral proficiency interviews (OPIs; Freed, 1995a). Notable exceptions include Moehle and Raupach's case studies of French learners of German and German learners of French (Moehle, 1984; Moehle and Raupach, 1983; Raupach, 1984; Raupach, 1987 cited in Freed, 1995a). In these studies, the German learners of French were observed to make noticeable gains in speech rate and pause duration, but not in grammatical accuracy or complexity. The result was, however, not replicated for the French learners of German.

That fluency, and proficiency more broadly, develops over time is to be expected, whether learners are studying abroad in an immersion context or at home in a classroom context. Freed (1995a) has therefore argued that it is essential to conduct controlled comparisons of these two learning contexts in order to establish their relative impact on language learning. In a study comparing fluency development among American adult learners of French studying abroad and studying at home, Freed (1995b) observed that learners studying abroad 'speak both more and significantly faster than those who have not been abroad, and their speech is characterised by a greater smoothness with fewer clusters of dysfluencies and longer streams of continuous speech' (Freed, 1998: 44). Analyses were, however, limited to four students in each learning context, bringing into question the generalisability of Freed's (1995b) findings.

Despite Freed's (1995a) call for comparative studies, much research since then has focused on tracking the development of individual cohorts of students. These studies include: Towell et al.'s (1996) four-year longitudinal study of fluency development among advanced-level undergraduate British learners of French spending a year abroad; Du's (2013) investigation of the impact of a language pledge on fluency development among novice to superior-level American adult learners of Mandarin undertaking one semester study in China; Di Silvio et al.'s (2016) comparison of fluency development across American adult learners of Mandarin, Russian and Spanish completing a semester-long study-abroad programme; Huensch and Tracy-Ventura's (2017a, 2017b) exploration of fluency development among advanced-level undergraduate British learners

of French and Spanish undertaking a year abroad; and, Leonard and Shea's (2017) examination of the development of complexity, accuracy and fluency as well as linguistic knowledge and processing among mainly American undergraduate learners of Spanish undertaking three months' study abroad.

These studies and others (e.g. D'Amico, 2012; Mora and Valls-Ferrer, 2012; Serano et al., 2012) consistently observed statistically significant improvements in either speech rate or articulation rate as well as mean length of run, where reported. Towell et al.'s (1996) study is interesting for its inclusion of first language (L1) data and its finding that while learners made significant gains in speech rate, articulation rate and mean length of run, they still did not achieve native-like levels of performance on those measures. In addition to finding a positive impact of commitment to the language pledge on speech rate, interestingly Du (2013) observed that students made the greatest gains in their oral fluency operationalised as characters per minute (approximately equivalent to syllables per minute) in the first month of their semester in China. Di Silvio et al. (2016) also observed significant gains in speech rate and mean length of run across languages. A cross-language effect was, however, also evident in their study, with the learners of Mandarin increasing the length of their longest run, while the learners of Russian experienced a decrease in repairs and rate of unfilled pauses, and the Spanish learners produced fewer filled as well as fewer unfilled pauses. Similar to previous studies, the learners in Huensch and Tracy-Ventura's (2017a) study improved on mean syllable duration (i.e. articulation rate).¹ Improvements were, however, also seen in silent pause rate and the duration of silent pauses within analysis of speech units (ASUs), where an ASU refers to 'a single speaker's utterance consisting of an *independent clause*, or *sub-clausal unit*, together with an *subordinate clause(s)* associated with either' (Foster et al., 2000: 365). Further to this, Huensch and Tracy-Ventura (2017a) find further evidence of gains in speech rate during the first month of the year abroad, and Huensch and Tracy-Ventura (2017b) find further evidence of a relationship between L1 and L2 fluency as well as a cross-language effect. Leonard and Shea's (2017) findings are also interesting in that on average their learners made gains in complexity and accuracy as well as fluency, where many previous studies exploring the inter-relationship between these different dimensions of proficiency have observed a trade-off (e.g. Ahmadian and Tavakoli, 2011; Bygate and Samuda, 2005; Bygate, 2001).

1. Mean syllable duration is simply the inverse of articulation rate.

Development in general language proficiency over time is, as said, to be expected. Further studies comparing study abroad and study at home have therefore emerged. These include further studies by Freed and colleagues focusing on American learners of French (Freed et al., 2004) and Spanish (O'Brien et al., 2007; Segalowitz and Freed, 2004), as well as a study by Llanes and Muñoz (2013) comparing adult Spanish learners of English with young Spanish learners of English. These studies also consistently observed gains in learners' oral fluency from pre-test to post-test and, crucially, that these gains were greater than those made by learners studying 'at home'.

Freed et al.'s (2004) study is interesting in that it also compared study abroad and study at home with study in a domestic immersion context. All learners in the study had two to four years' prior language instruction. The learners in the at-home context received three to four hours' French instruction per week over the course of one semester and most lived with their fellow English speakers. In contrast, the learners in the domestic immersion context received three to four hours' French instruction per day over the course of seven weeks, participated in an extracurricular programme in French and lived in dorms on campus with other students on the programme. Learners in the study-abroad context received two to five hours' French instruction per day in Paris, committed to a language pledge and were not permitted to live with other speakers of English. Interestingly, students in the domestic immersion context as well as students in the study-abroad context improved on a composite measure of fluency, whereas learners studying at home did not. Learners in the domestic immersion context improved more than learners in the study-abroad context, a difference that might be explained by the fact that learners in the domestic immersion context reported using French more than learners in the study-abroad context.

Comparing study abroad with study at home only, Segalowitz and Freed (2004) also observed an advantage of study abroad over study at home, with learners studying abroad improving on a range of measures of oral fluency, whereas learners studying at home did not. It should, however, be noted that learners in the study-abroad context in this study received three times as much formal language instruction as learners in the at-home context on the semester-long programme.

Segalowitz and Freed's (2004) study is also interesting because it provides some preliminary evidence to suggest that there might be a relationship between learners' underlying cognitive abilities and their oral fluency development. Examining the relationship between lexical access speed, attention control (i.e. a learner's 'ability to efficiently allocate attention among different aspects of language or different cognitive processing task' (Isaacs and Trofimovich, 2011: 116)) and oral fluency development, Segalowitz and Freed (2004) observed a positive relationship between efficiency of attention control and speech rate. That is, they observed that learners who were more consistently able to quickly shift the focus of their attention, spoke at a faster rate.

O'Brien et al. (2007), who also observed an advantage of study abroad over study at home, provide further evidence for the influence of underlying cognitive abilities on oral fluency development. In their study, a strong relationship was found between phonological memory, that is 'the ability to recognize phonological elements and their order of occurrence' (O'Brien et al., 2007: 558), and oral fluency development. Again, it should be noted that the study-abroad as well as the study-at-home learners received formal instruction in the target language, as is common for US students undertaking a semester abroad.

Study abroad was also found to be superior to study at home with respect to oral fluency development in Llanes and Muñoz's (2013) investigation of Spanish learners of English. It is interesting to note that, unlike most previous studies, the adults and children who undertook study abroad in this piece of research attended regular classes and did not receive formal language instruction during the programme. Another interesting finding is that the children made greater gains than the adults. Llanes and Muñoz (2013) suggest this result might be explained by the children's lower proficiency. Early research on study abroad found that it had greater impact on fluency development among less proficient learners.

In summary, previous research provides ample evidence that study abroad promotes oral fluency development, with many studies observing development on speech rate or articulation rate, depending on which measure was reported. It should, however, be noted that most research to date has focused on learners of French or Spanish from the US, who differ markedly from the growing numbers of learners of English embarking on an undergraduate or master's programme in an English-speaking country. First, learners from the US typically have significantly less prior instruction in the target language – often as little as two years (Coleman, 1998) compared to around ten years for most learners of English enrolling on a degree programme abroad. Second, learners from the US also typically continue to receive quite intensive formal language instruction during their stay abroad (Coleman, 1998) – as much as five hours per day compared to one to two hours per week, if learners of English receive in-session support on their degree programme. Moreover, they also differ in a crucial way from British learners of French and Spanish, the other oft-researched group. While learners of English enrolling on a degree programme in an English-speaking country typically have similar levels of prior language instruction to learners of French or Spanish from the UK embarking on a year abroad, the distance between British culture and their own is greater than the distance between French or Spanish culture and British culture. Consequently, they frequently report difficulties integrating into the host community and getting the exposure to the target language they had anticipated (Spencer-Oatey et al., 2016), a factor some of the studies reviewed above highlight is more important than the context of instruction.

In light of the gap in the literature established above, this paper explores oral fluency development among a group of Chinese learners of English embarking on a master's programme in the UK. The specific research questions which guide the paper are:

1. What is the differential impact of studying for a master's abroad in the UK with studying for a master's at home in China on learners' oral fluency development in English?
2. Does the amount of language contact learners engage in differ across these two contexts?
3. Is there a relationship between language contact and oral fluency development in these two contexts?

3

Key methodological details

3.1 Participants

The participants were 73 Chinese learners of English. Of these, 34 (zero male, 34 female) were studying for a master's at a university in the north-east of England, and 39 (seven male, 32 female) were studying for a master's at a university in east China. Recruited from a range of master's programmes including language-focused and non-language-focused programmes,² their ages ranged from 20 to 28 years, with a mean of 23 years in both groups. The age at which they began learning English ranged from three to 15 years old, with an average of ten years old for learners studying in the UK, and 11 years old for learners studying in China. Learners studying for a master's in the UK had typically achieved 6.5 on their most recent IELTS test. Learners studying for a master's in China had typically achieved 500 on the College English Test (CET).

3.2 Learning contexts

Thirteen of the learners studying in the UK had completed a pre-session language course during the summer prior to enrolling on their master's programme. Most learners received one to two hours' in-session support in academic literacy, covering critical reading, note-taking while reading and listening, and essay and dissertation writing among other skills, alongside between five and 12 hours' English medium instruction focusing on their major. Most lived with fellow Chinese speakers in halls of residence or a flat share.

The learners in China on the other hand did not have access to a pre-session language course prior to enrolling on their master's programme. The 25 learners studying in China for a language major received between 1.5 and three hours' in-session language instruction alongside between five and 15 hours' English medium instruction focusing on their major. All other learners received between 1.5 and three hours' in-session language instruction alongside between five and 15 hours' instruction focusing on their major delivered in Mandarin. Learners studying in China typically live in dorms on campus with other Chinese students.

3.3 Design and instruments

The learners were asked to complete an IELTS-style monologic speaking task and a language contact questionnaire, once at the start of their master's programme (time 1) and once six months later (time 2).

The purpose of the speaking task was to elicit a sample of the learners' spoken English for the analysis of the learners' oral fluency. In order to eliminate potential learning effects from time 1 to time 2, two similar versions of the speaking task were used. In version A, learners were asked to talk about somewhere they had been on holiday, and in version B learners were asked to describe a journey they had been on (Case, 2008). Half of the learners in each context completed the 'holiday' task at time 1, while the other half completed the 'journey' task. And, the learners who completed the 'holiday' task at time 1 completed the 'journey' task at time 2, and vice versa (see Figure 1). Mann-Whitney tests confirmed that there were no significant differences between learners' performance on the two different versions of the speaking task on any measure at either time 1 or time 2.

The purpose of the language contact questionnaire was to provide an estimate of learners' time on task. A modified version of Freed et al.'s (2004) language contact profile questionnaire designed to capture the amount of time learners spent engaging in online as well as face-to-face interaction, and interaction with traditional print and oral media, was used in this study (see Figure 1).

Further to the language contact questionnaire, learners were also asked to complete a background questionnaire at the start of their master's programme. The purpose of this questionnaire was to elicit general demographic data as well as language background data.

Both questionnaires were translated into Mandarin and administered on paper.

2. In the UK, the following majors were represented: Computer Science (1), Economics (4), Education (6), Management (10), Music (1), Philosophy, Politics and Economics (1), Psychology (1) and Teaching English to Speakers of Other Languages (14). In China, the following majors were represented: Finance (9), International Trade (2), Linguistics (3), Literature (3), Management (3), Translation (10) and Teaching Chinese as a Foreign Language (9).

Figure 1: Procedure

	Study abroad in the UK (n=34)		Study at home in China (n=39)	
Time 1	Version A	Version B	Version A	Version B
	(n=17)	(n=17)	(n=19)	(n=20)
	Background questionnaire			
	Language contact questionnaire			
Intervention	Six months master's study in the UK		Six months master's study in China	
Time 2	Version B	Version A	Version B	Version A
	Language contact questionnaire			

Figure 2: Extract of language contact questionnaire

Use of English with native speakers of English

a. On average how much time do you spend out of class engaging in spoken interaction (including face-to-face, on the phone, and via technologies such as Skype) in English with native speakers of English?

<i>Typically, how many days per week?</i>	0	1	2	3	4	5	6	7
<i>On those days, typically how many hours per day?</i>		0-1	1-2	2-3	3-4	4-5	more than 5	

Use of English to engage with online and traditional media

a. On average how much time do you spend out of class reading English online and through traditional media?

<i>Typically, how many days per week?</i>	0	1	2	3	4	5	6	7
<i>On those days, typically how many hours per day?</i>		0-1	1-2	2-3	3-4	4-5	more than 5	

3.4 Measures of oral fluency

Previous research has observed strong associations between the various measures of oral fluency employed in previous research (see Table 1) and ratings of oral fluency provided by trained and naïve native speakers as well as teachers (De Jong et al., 2012). Of these measures, the holistic measure *pruned speech rate* (Derwing et al., 2004), and measures of speed and breakdown fluency, have in particular been found to relate to measures of perceived fluency (De Jong et al., 2012). This study therefore focuses on the holistic measure *pruned speech rate*, the speed measure *articulation rate*, and the breakdown measures *pause rate*, *pause duration* and *mean length of run*.

The measures were calculated using the speech analysis software PRAAT (Boersma and Weenink, 2017). The recordings were first cleaned. That is, any off-task talk, coughs and throat clearings were removed from the recordings (Burchfield and Bradlow, 2014). Next, the first 60 seconds of talk was extracted from each of the recordings.

The recordings were then coded by hand by two trained linguists. Each linguist coded both the time 1 and time 2 recording for 60 per cent of the learners in each condition, allowing for a 20 per cent overlap to check for consistency across coders. To increase the reliability of the coding, the recordings were first coded automatically for silent pauses using De Jong and Wempe's (2009) PRAAT script with a cut-off point of 0.25 seconds – this was employed as the cut-off point rather than 0.4 seconds (see Derwing et al. 2004; Freed, 1995b) because studies have found it to correlate well with measures of proficiency (De Jong and Bosker, 2013). The linguists then identified all filled pauses longer than 0.25 seconds, as well as all repairs, before counting the total number of syllables excluding filled pauses, and the number of syllables involved in repairs. Consistency among coders was excellent, with an intra-class correlation coefficient of greater than 0.95 for all measures of oral fluency (Portney and Watkins, 2000).

4

Key findings

The alpha level for significance was set at 0.05 for all analyses. The criterion adopted for identifying outliers was three standard deviations from the mean. Not all of the data was normally distributed and there were some outliers. Non-parametric tests were therefore used to explore the research questions. The first set of analyses explore the question of whether study abroad and study at home have a differential impact on oral fluency. The second set explore whether the extent to which out-of-class language contact differs across the two learning contexts. The final set explore whether there is a relationship between language contact and oral fluency development in the two learning contexts.

4.1 Oral fluency development

Table 2 shows the median, and range of scores on the five measures of oral fluency in the two learning contexts. Note that a higher score represents better

performance on measures of pruned speech rate, articulation rate and mean length of run, whereas a lower score represents better performances on measures of pause rate and average pause duration. Taking this into account, the data show that, at time 1, learners studying for a master's in the UK performed better than learners studying for a master's in China, on the holistic measure pruned speech rate as well as on pause rate and on mean length of run, whereas learners studying in China performed better than learners studying in the UK on measures of articulation rate and mean pause duration. While the differences in the median scores across contexts at time 1 are small in comparison with the range in each context, they are statistically significant for pruned speech rate, pause rate and mean length of run (see Table 3), the measures on which the learners studying in the UK outperformed the learners studying in China.

Table 2: Fluency measures at time 1 and time 2 in the study-abroad and study-at-home contexts

			Study abroad in the UK (n=34)		Study at home in China (n=39)	
			Time 1	Time 2	Time 1	Time 2
Holistic	Pruned speech rate	Med.	127.51	129.81	110.03	106.96
	(syllables per minute)	Min.	76.64	84.70	60.86	57.19
		Max.	201.15	225.09	197.72	191.50
Speed	Articulation rate	Med.	173.06	179.42	176.15	167.20
	(syllables per minute)	Min.	127.97	141.47	119.47	124.65
		Max.	234.24	254.74	267.02	244.80
Breakdown	Pause rate	Med.	22.03	23.82	27.65	26.70
	(pause per minute)	Min.	17.60	14.87	18.97	19.39
		Max.	32.00	31.37	33.40	38.29
	Average pause duration	Med.	0.74	0.76	0.73	0.77
	(seconds)	Min.	0.45	0.44	0.47	0.47
		Max.	1.02	1.36	1.32	1.32
	Mean length of run	Med.	6.48	5.92	4.52	4.67
	(syllables)	Min.	3.46	3.85	2.57	2.41
		Max.	10.58	14.56	11.58	10.43

Note: a higher score represents better performance on measures of pruned speech rate, articulation rate and mean length of run; a lower score represents better performance on measures of pause rate and average pause duration.

Table 3: Mann-Whitney tests comparing baseline fluency measures at time 1

		U	z	p
Holistic	Pruned speech rate	431.000	-2.566	0.01
Speed	Articulation rate	634.000	-0.321	0.75
Breakdown	Pause rate	329.000	-3.694	< 0.01
	Average pause duration	558.000	-1.161	0.25
	Mean length of run	330.000	-3.683	< 0.01

As presented above, not all of the data was normally distributed and there were some outliers. Non-parametric tests must therefore be used, and it is necessary to calculate changes over time in order to compare fluency development across the two learning contexts. Change was calculated by subtracting the time 1 score from the time 2 score for each measure.

Table 4 presents the median and range of change for each measure in the two learning contexts. Remember, a positive change represents an improvement in pruned speech rate, articulation

rate and mean length of run, whereas a negative change represents an improvement in pause rate and pause duration. Taking this into account, Table 4 shows that the learners studying in the UK improved more than learners studying in China on all measures with the exception of pause rate and pause duration. This difference in change over time was statistically significant for articulation rate (see Table 5). It should, however, be noted that the performance of learners studying in China declined on this measure, more than learners studying in the UK improved on this measure. The same is true for pruned speech rate and mean length of run.

Table 4: Changes in fluency measures from time 1 to time 2 in the study-abroad and study-at-home contexts

			Study abroad in the UK	Study at home in China
Holistic	Pruned speech rate	Med.	2.50	-6.82
	(syllables per minute)	Min.	-53.77	-49.43
		Max.	41.98	45.42
Speed	Articulation rate	Med.	9.94	-11.08
	(syllables per minute)	Min.	-49.71	-60.06
		Max.	52.68	42.09
Breakdown	Pause rate	Med.	-0.27	-0.35
	(pause per minute)	Min.	-7.82	-6.27
		Max.	10.38	9.76
	Average pause duration	Med.	0.01	0.00
	(seconds)	Min.	-0.24	-0.40
		Max.	0.67	0.34
	Mean length of run	Med.	0.07	-0.32
	(syllables)	Min.	-4.40	-1.47
		Max.	4.25	1.90

Note: a positive change represents an improvement in performance on measures of pruned speech rate, articulation rate and mean length of run; a negative change represents a decline in performance on measures of pause rate and average pause duration.

Table 5: Mann-Whitney tests comparing changes in fluency measures across learning contexts

		U	z	p
Holistic	Pruned speech rate	535.000	-1.416	0.16
Speed	Articulation rate	422.000	-2.665	0.01
Breakdown	Pause rate	646.000	-0.188	0.85
	Average pause duration	643.000	-0.221	0.82
	Mean length of run	591.000	-0.796	0.43

Changes from time 1 to time 2 were therefore examined independently for each context. These analyses, presented in Table 6 and Table 7, show that changes in articulation rate were statistically significant for learners studying in China and neared

significance at the 0.1 level for learners studying in the UK. Changes in all of the other measures of oral fluency were not statistically significant for either group.

Table 6: Wilcoxon tests comparing time 1 and time 2 scores for learners studying abroad in the UK

		z	p
Holistic	Pruned speech rate	-0.607 ^a	0.54
Speed	Articulation rate	-1.633 ^a	0.10
Breakdown	Pause rate	-0.366 ^b	0.71
	Average pause duration	-0.402 ^a	0.69
	Mean length of run	-0.248 ^a	0.80

Key: a = Based on negative ranks, b = Based on positive ranks.

Table 7: Wilcoxon tests comparing time 1 and time 2 scores for learners studying at home in China

		z	p
Holistic	Pruned speech rate	-1.256 ^a	0.21
Speed	Articulation rate	-2.289 ^a	0.02
Breakdown	Pause rate	-0.837 ^a	0.40
	Average pause duration	-0.042 ^b	0.97
	Mean length of run	-1.298 ^a	0.19

Key: a = Based on negative ranks, b = Based on positive ranks.

4.2 Language contact

As presented in Figure 2, the language contact questionnaire asked learners to indicate how often (i.e. how many days per week) and for how long (i.e. how many hours per day) they interacted in English with native and non-native speakers. The number of hours spent engaging in each type of interaction (reading English, writing English with native speakers,³ writing English with non-native speakers, listening to English, speaking English with native speakers, and speaking English with non-native speakers) was calculated by multiplying the number of days by the number of hours. The number of hours spent speaking English with native speakers was then added to the number of hours spent speaking English with non-native speakers to arrive at the total number of hours spent speaking English. The total number of hours spent writing in English was calculated in the same way. The overall number of hours spent interacting in English was calculated by summing the number of hours spent engaging in each type of interaction listed above.

Table 8 presents the median and range for these variables. It shows that, at time 1, learners studying in the UK spent over four times more time interacting in English than learners studying in China, and over two times more time at time 2. Of that time, learners studying in the UK spent by far the most of their time reading, and very little of their time writing. The learners studying in China spent similar amounts of time reading and listening, and very little time writing and speaking. The overall amount of time that the learners studying in the UK spent interacting in English decreased from time 1 to time 2, with decreases in the amount of time spent reading and speaking. The decreases were, however, not statistically significant (see Table 9). On the other hand, the overall amount of time that the learners studying in China spent interacting in English increased, with increases in writing and speaking. Only the increases in time spent speaking English were statistically significant (see Table 10).

Table 8: Language contact at time 1 and time 2 in study-abroad and study-at-home contexts

		Study abroad in the UK		Study at home in China	
		Time 1 (n=27)	Time 2 (n=34)	Time 1 (n=26)	Time 2 (n=39)
Overall contact	Med.	33.50	26.50	7.75	10.50
	Min.	3.00	2.00	0.00	1.00
	Max.	91.00	76.00	81.00	73.50
Reading	Med.	10.50	9.00	3.00	3.00
	Min.	0.50	0.50	0.00	0.50
	Max.	31.50	38.50	38.50	38.50
Writing	Med.	1.50	2.00	0.50	1.00
	Min.	0.00	0.00	0.00	0.00
	Max.	54.00	28.00	15.00	14.00
Speaking	Med.	6.00	3.75	0.50	1.00
	Min.	0.50	0.50	0.00	0.00
	Max.	35.00	30.00	3.50	17.50
Listening	Med.	4.50	5.25	2.50	1.50
	Min.	0.00	0.00	0.00	0.00
	Max.	38.50	17.50	38.50	33.00

3. This wording was designed to capture the writing learners engage in through computer-mediated communication and social media.

Table 9: Wilcoxon tests comparing language contact at time 1 and time 2 for learners studying abroad in the UK

	z	p
Overall contact	-1.234 ^a	0.217
Reading	-0.805 ^a	0.421
Writing	-0.627 ^b	0.530
Speaking	-1.724 ^a	0.085
Listening	-0.302 ^b	0.763

Key: a = Based on negative ranks, b = Based on positive ranks.

Table 10: Wilcoxon tests comparing language contact at time 1 and time 2 for learners studying at home in China

	z	p
Overall contact	-0.098 ^a	0.922
Reading	-0.112 ^b	0.911
Writing	-1.659 ^a	0.097
Speaking	-2.453 ^a	0.014
Listening	-1.584 ^b	0.113

Key: a = Based on negative ranks, b = Based on positive ranks.

The average contact across time 1 and time 2 was calculated, to permit the comparison of language contact across the two learning contexts. These results, presented in Table 11, show that learners

studying in the UK spent more time engaging in all forms of interaction in English than learners studying in China. These differences were statistically significant (see Table 12).

Table 11: Average language contact across time 1 and time 2 in study-abroad and study-at-home contexts

		Study abroad in the UK	Study at home in China
		(n=26)	(n=34)
Overall contact	Med.	28.25	10.25
	Min.	3.00	1.00
	Max.	83.50	61.50
Reading	Med.	9.50	5.25
	Min.	0.50	0.25
	Max.	28.00	24.50
Writing	Med.	1.75	0.63
	Min.	0.00	0.00
	Max.	28.00	8.00
Speaking	Med.	6.00	1.00
	Min.	0.75	0.00
	Max.	32.50	9.00
Listening	Med.	6.00	2.00
	Min.	0.50	0.00
	Max.	17.50	24.50

Table 12: Mann-Whitney tests comparing language contact in study-abroad and study-at-home contexts

	U	z	p
Overall contact	139.500	-3.935	< 0.01
Speaking	125.500	-4.489	< 0.00
Writing	252.500	-2.522	0.01
Reading	221.000	-2.887	< 0.01
Listening	257.500	-2.434	0.02

Before proceeding to examine the relationship between language contact and oral fluency development, it is important to note that while Table 8 and Table 11 show that there was a large range in language contact across participants in both learning contexts, the median was much closer to the minimum than to the maximum for all variables, highlighting that the data was skewed.

4.3 Relationship between language contact and oral fluency development

The relationship between language contact and oral fluency development was explored by correlating the average language contact across time 1 and time 2 with change in oral fluency development. Table 13 presents the results for learners studying in the UK. It shows that there was a significant medium-strength positive correlation between overall language contact and average pause duration – the more time

learners spent interacting in the target language, the longer they paused. Weak to medium-strength negative correlations were also observed between overall language contact and pause rate, and time spent reading in English and articulation rate. These correlations were, however, not statistically significant.

On the other hand, significant weak correlations were observed between the amount of time spent speaking in English and pause rate and average pause duration for the learners studying in China (see key, Table 14). The latter was a positive correlation; that is the more time learners spent speaking in English, the more often they paused. The former was a negative correlation; that is the more time learners spent speaking English, the shorter the length of their pauses. Neither correlation was, however, statistically significant.

Table 13: Spearman’s correlation between average language contact and change in oral fluency for learners studying abroad in the UK

	Pruned speech rate	Articulation rate	Pause rate	Average pause duration	Mean length of run
Overall contact	-0.07	-0.26	-0.41	0.46*	0.30
Reading	-0.26	-0.40	-0.30	0.29	0.14
Writing	-0.08	-0.15	-0.04	0.39	0.01
Speaking	0.25	0.15	-0.12	0.16	0.20
Listening	-0.23	-0.31	-0.15	0.30	-0.03

Key: * Correlation is significant at the 0.05 level (two-tailed)

Table 14: Spearman’s correlation between average language contact and change in oral fluency for learners studying at home in China

	Pruned speech rate	Articulation rate	Pause rate	Average pause duration	Mean length of run
Overall contact	-0.19	-0.24	-0.04	-0.10	-0.18
Reading	-0.13	-0.28	-0.17	-0.06	0.03
Writing	0.03	0.05	0.01	-0.20	-0.15
Speaking	0.01	0.11	0.35*	-0.37*	-0.19
Listening	-0.04	-0.04	-0.07	-0.15	0.00

Key: * Correlation is significant at the 0.05 level (two-tailed)

5

Discussion

This paper reports on one of the first studies to compare study abroad with study at home in which learners studying abroad did not receive intensive language instruction during their stay. It is also unique in focusing on Chinese learners of English. The results are interesting in that they do not appear to support the received wisdom and the findings of previous research, in two notable ways. First, while on average learners studying abroad in the UK made small gains on some measures of oral fluency over the course of the study, these gains were not statistically significant and were not significantly greater than those made by the learners studying at home in China – the only significant difference in oral fluency development across the two learning contexts potentially being driven by decreases in oral fluency among the learners studying in China. Second, learners who reported spending more time interacting in English paused less often, but spoke slower, and paused for longer. In other words, they might be considered to speak less fluently than learners who spent less time interacting in English. These results are particularly surprising given that these learners spent six months studying abroad between time 1 and time 2, compared to only one semester, i.e. three months, in most previous studies.

Considering the full range of data collected in this study and the findings of previous research, a number of possible explanations for these findings come to mind.

The role of in-session language support: The first possible explanation is that it is essential for learners to receive intensive language instruction during study abroad in order to benefit from the opportunities for language contact and the practice that brings. With the exception of Towell et al. (1996), Llanes and Muñoz (2013) and Huensch and Tracy-Ventura (2017a, 2017b), previous research finding a positive impact of study abroad on oral fluency development has focused on learners from the US who typically receive intensive language instruction during their programme – up to five hours per day compared to a maximum of two hours per week

for the learners in this study. As highlighted by Nation (2009), discussing the ideal composition of a balanced language curriculum, fluency-focused instruction is only beneficial if learners are already familiar with the language. While it is likely that the learners in our study were significantly more proficient in English prior to embarking on study abroad than the learners in most previous study-abroad research, learners in our study typically had at least ten years' prior language instruction compared to as little as two months' prior language instruction for the US learners in previous research. Perhaps the learners in our study do not have the knowledge of the target language necessary to benefit from the practice that language contact offers without additional relatively intensive formal language instruction.

Quantity of language contact: Another possible explanation might be that the learners studying abroad in the UK did not interact sufficiently in English and get the practice required to become fluent in their use of their knowledge of the target language, despite spending twice as much time studying abroad as learners in most previous research. A comparison of the levels of language contact reported among our learners studying in the UK with the levels of language contact reported by the learners in Llanes and Muñoz's (2013) study, the only other study to investigate oral fluency development among learners enrolling on a degree programme abroad with learners studying at home, finds that, per week, our Chinese learners report spending half as much time interacting in English than learners in that study. Where our learners studying in the UK reported mean overall contact of 32.41 hours per week (SD 18.53), Llanes and Muñoz's (2013) Catalan/Spanish learners reported a mean overall contact of 68.76 hours per week (SD 9.21), a difference which might be attributable to the difference in cultural distance between China and the UK and Spain and Great Britain and the difficulties that Chinese learners report establishing friendships when studying in the UK (Spencer-Oatey et al., 2016).

Quality of language contact: Further exploration of the language contact data that we gathered, however, suggests an alternative explanation, namely the quality of interaction. In relation to this, it is interesting to note that reported language contact among learners studying in the UK decreased from time 1 to time 2, and that whereas learners studying in China who spent more time speaking English spoke faster, learners studying in the UK who spent more time interacting in English spoke slower and paused for longer. Together these results suggest that it is possible that learners studying in the UK may have had negative experience interacting in the target language which led them to focus more on accuracy and hence to slow down and plan more. Further research would, however, be necessary to confirm this hypothesis.

These explanations aside, it is also possible that the findings are an artefact of the design of the study. First, it should be noted that this study is a quasi-experimental study. Learners were not randomly assigned to the two learning contexts, rather the decision to study abroad was a personal one and the learners in each context were a convenience sample. It is therefore possible that the differences between learners in the two contexts are attributable to inherent differences between the two cohorts, and most likely differences in their language proficiency and fluency prior to embarking on their master's study. The differences in learners' scores at time 1 appear to support this.

Another limitation of the design of the study should, however, be taken into consideration when exploring this possible explanation for the absence of a large effect of study abroad on oral fluency development, namely that the learners were not tested until six weeks after starting their programme. It is therefore possible that the differences observed at time 1 were due to changes in the learners' oral fluency over the first six weeks of their master's study, rather than self-selection. This explanation is supported by Du's (2013) study focusing on American learners of Chinese and Huensch and Tracy-Ventura's (2017a) study focusing on British learners of French and Spanish. In both studies, learners were observed to improve most over the course of their first month abroad. Pre-departure measures are, however, much harder to obtain in this context, where study abroad does not constitute part of a programme as it does in US and UK language programmes.

Finally, while the sample size in this study is comparable to and, in fact, larger than that employed in previous research on oral fluency development during study abroad, it is possible that the sample size was insufficient to detect changes in overall fluency over time, given that the effects of studying abroad for a degree, might be expected to be smaller than those of intensive language study abroad. Researchers should therefore consider employing a considerably larger sample size in future research.

6

Conclusion

In summary, counter to much previous research on oral fluency development during study abroad, only a small effect of study abroad on oral fluency development was observed in this study and the improvements learners made were not found to be significantly greater than those made by learners studying at home. These findings highlight the need for research exploring all forms of study abroad, including studying for a degree programme with minimal in-session formal language instruction, as well as completing an intensive language programme abroad. Highlighting the possibility that the quality of language contact during study abroad might play a significant role in determining its impact on oral fluency development, the findings also suggest that it is important to collect data on the precise nature of the interactions that learners engage in during study abroad, their experience of them and how they impact on their willingness to, and attitudes towards, interacting in the target language.

If the explanations for the findings of this study explored above are right and learners are to achieve their goal of improving their oral fluency as well as gaining a degree, universities should consider providing international students more intensive in-session language support along with further support to integrate into the local (student) community.

References

- Ahmadian, MJ and Tavakoli, M (2011) The effects of simultaneous use of careful online planning and task repetition on accuracy, complexity, and fluency in EFL learners' oral production. *Language Teaching Research* 15/1: 35–59.
- Boersma, P and Weenink, D (2009) Praat: doing phonetics by computer (version 5.1.3.1). Available online at: www.fon.hum.uva.nl/praat/
- Burchfield, LA and Bradlow, AR (2014) Syllabic reduction in Mandarin and English speech. *The Journal of the Acoustical Society of America* 135/6: EL270–EL276.
- British Council (2015) *International student mobility: By the numbers*. Available online at: https://www.britishcouncil.org/sites/default/files/international_mobility_review_chan_022015_v2.pdf
- Bygate, M (2001) 'Effects of task repetition on the structure and control of oral language', in Bygate, M, Skehan, P and Swain, M (eds) *Researching pedagogic tasks: Second language learning, teaching and testing* (pages 23–48). Essex: Pearson Education Limited.
- Bygate, M and Samuda, V (2005) 'Integrative planning through the use of task repetition' in Ellis, R (ed) *Planning and task performance in a second language* (pages 37–74). Amsterdam: John Benjamins Publishing Company.
- Case, A (2008) 101 IELTS Speaking Part Two topic cards that tie in with IELTS Speaking Part One. *UsingEnglish.com*. Available online at: <https://www.usingenglish.com/files/pdf/101-ielts-speaking-part-two-tasks-about-sports-and-hobbies.pdf>
- Coleman, JA (1998) Language learning and study abroad: The European perspective. *Frontiers: The interdisciplinary journal of study abroad* 4/2: 167–203.
- D'Amico, M (2012) L2 fluency and willingness to communicate: The impact of short-term study abroad versus at-home study. *US-China Foreign Language* 10/10: 1608–1625.
- De Jong, NH and Bosker, HR (2013) Choosing a threshold for silent pauses to measure second language fluency. *Proceedings of the 6th Workshop on Disfluency in Spontaneous Speech (DiSS)* 17–20.
- De Jong, NH and Wempe, T (2009) Praat script to detect syllable nuclei and measure speech rate automatically. *Behavior research methods* 41/2: 385–390.
- De Jong, NH, Steinel, MP, Florijn, AF, Schoonen, R and Hulstijn, JH (2012) Facets of speaking proficiency. *Studies in Second Language Acquisition* 34/1: 5–34.
- DeKeyser, R (2007) *Practice in a second language: Perspectives from applied linguistics and cognitive psychology*. Cambridge: Cambridge University Press.
- Derwing, TM, Munro, MJ, Thomson, RI and Rossiter, MJ (2009) The relationship between L1 fluency and L2 fluency development. *Studies in Second Language Acquisition* 31/4: 533–557.
- Derwing, TM, Rossiter, MJ, Munro, MJ and Thomson, RI (2004) Second language fluency: Judgments on different tasks. *Language learning* 54/4: 655–679.
- Di Silvio, K, Donovan, A and Diao, W (2016) The development of L2 fluency during study abroad: A cross-language study. *The Modern Language Journal* 100/3: 610–624
- Du, H (2013) The development of Chinese fluency during study abroad in China. *The Modern Language Journal* 97/1: 131–143.
- Eder, J, Smith, WW and Pitts, RE (2010) Exploring factors influencing student study abroad destination choice. *Journal of Teaching in Travel & Tourism* 10/3: 232–250.
- Foster, P, Tonkyn, A and Wigglesworth, G (2000) Measuring spoken language: a unit for all reasons. *Applied Linguistics* 21/3: 354–375.
- Freed, BF (1995a) 'Language learning and study abroad', in Freed, BF (ed) *Second language acquisition in a study abroad context* (pages 3–34). Amsterdam: John Benjamins.
- Freed, BF (1995b) 'What makes us think that students who study abroad become fluent', in Freed, BF (ed) *Second language acquisition in a study abroad context* (pages 123–148). Amsterdam: John Benjamins.
- Freed, BF (1998) An overview of issues and research in language learning in a study abroad setting. *Frontiers: The interdisciplinary journal of study abroad* 4/2: 31–60.
- Freed, BF, Segalowitz, N and Dewey, DP (2004) Context of learning and second language fluency in French: Comparing regular classroom, study abroad, and intensive domestic immersion programs. *Studies in second language acquisition* 26/2: 275–301.

- Huensch, A and Tracy-Ventura, N (2017a) L2 Utterance Fluency Development Before, During, and After Residence Abroad: A Multidimensional Investigation. *The Modern Language Journal* 101/2: 275–293.
- Huensch, A and Tracy-Ventura, N (2017b) Understanding second language fluency behavior: The effects of individual differences in first language fluency, cross-linguistic differences, and proficiency over time. *Applied Psycholinguistics* 38/4: 755–785.
- IELTS (2017) *Common European Framework*. Available online at: <https://www.ielts.org/ielts-for-organisations/common-european-framework>
- Isaacs, T and Trofimovich, P (2011) Phonological memory, attention control, and musical ability: Effects of individual differences on rater judgments of second language speech. *Applied Psycholinguistics* 32/1: 113–140.
- Kachru, BB (1992) Teaching world Englishes. *The other tongue: English across cultures* 2: 355–365.
- Kormos, J and Denés, M (2004) Exploring measures and perceptions of fluency in the speech of second language learners. *System* 32/2: 145–164.
- Lennon, P (1990) Investigating fluency in EFL: A quantitative approach. *Language Learning* 40/3: 387–417.
- Leonard, K and Shea, C (2017) L2 speaking development during study abroad: Fluency, accuracy, complexity and underlying cognitive factors. *The Modern Language Journal* 101/1: 179–193.
- Llanes, À and Muñoz, C (2013) Age effects in a study abroad context: Children and adults studying abroad and at home. *Language Learning* 63/1: 63–90.
- Moehle, D (1984) 'A comparison of the second language speech of different native speakers', in Dechert, H, Möhle, D and Raupach, M (eds) *Second language productions* (pages 26–49). Tübingen: Narr.
- Moehle, D and Raupach, M (1983) *Planen in der Fremdsprache*. Frankfurt: Peter Lang.
- Mora, JC and Valls-Ferrer, M (2012) Oral fluency, accuracy, and complexity in formal instruction and study abroad learning contexts. *TESOL Quarterly* 46/4: 610–641.
- Nation, ISP (2009) The four strands. *Innovation in language learning and teaching* 1/1: 2–13.
- O'Brien, I, Segalowitz, N, Freed, B and Collentine, J (2007) Phonological memory predicts second language oral fluency gains in adults. *Studies in Second Language Acquisition* 29/4: 557–581.
- Portney LG and Watkins MP (2000) *Foundations of clinical research: application to practice*. Upper Saddle River, NJ: Prentice Hall.
- Raupach, M (1984) 'Formulae in second language speech production', in Dechert, H, Möhle, D and Raupach, M (eds) *Second language productions* (pages 114–137). Tübingen: Narr.
- Raupach, M (1987) Procedural learning in advanced learners of a foreign language. *LAUD*, 1987.
- Schmidt, R (1992) Psychological mechanisms underlying language fluency. *Studies in Second Language Acquisition* 14: 357–385.
- Segalowitz, N (2010) *Cognitive Bases of Second Language Fluency*. London: Routledge.
- Segalowitz, N and Freed, BF (2004) Context, contact, and cognition in oral fluency acquisition: Learning Spanish in at home and study abroad contexts. *Studies in Second Language Acquisition* 26/2: 173–199.
- Spencer-Oatey, H, Dauber, D, Jing, J and Lifei, W (2016) Chinese students' social integration into the university community: hearing the students' voices. *Higher Education* 2016: 1–18.
- Towell, R, Hawkins, R and Bazergui, N (1996) The development of fluency in advanced learners of French. *Applied Linguistics* 17/1: 84–119.
- UKCISA (2017) *International student statistics: UK higher education*. Available online at: <https://institutions.ukcisa.org.uk/Info-for-universities-colleges--schools/Policy-research--statistics/Research--statistics/International-students-in-UK-HE/>
- UK Visas and Immigration (n.d.) *Tier 4 (General) student visa*. Available online at: <https://www.gov.uk/tier-4-general-visa/knowledge-of-english>
- Verhelst, N, Van Avermaet, P, Takala, S, Figueras, N and North, B (2009) *Common European Framework of Reference for Languages: learning, teaching, assessment*. Cambridge: Cambridge University Press.

Acknowledgements

This study was funded through a British Council English Language Teaching Research Award (ELTRA), with additional support provided by the Centre for Research in Language Learning and Use (CRELLU) and the Department of Education, University of York. The author would also like to thank Dr Maha Alghasab, Stewart Cooper and Cath Pease for their support with data collection and coding; Dr Sible Andringa for his advice on data processing and analysis; and, Dr Anne-Marie Hunter for her guidance on fluency measurement.

www.teachingenglish.org.uk/publications

ISBN 978-0-86355-880-1

© British Council 2018/H136

The British Council is the United Kingdom's international organisation for cultural relations and educational opportunities.