RELATIONSHIPS BETWEEN SOCIAL NETWORKS AND LANGUAGE DEVELOPMENT DURING STUDY ABROAD

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Abstract

The current study examined second language (L2) learners’ social networks during study abroad and how they changed over time. Participants were 29 British undergraduates majoring in French who were spending an academic year abroad in France. Social network data were collected three times during study abroad (beginning, middle, and end of a nine-month stay) using the Social Networks Questionnaire. Results showed that large proportions of learners’ social networks included L1-using contacts, with little change over time. Analysis of social networks according to social context indicated that work/university and organized free time contexts appeared to favour L2 use, whereas virtual contexts (e.g. Facebook, Skype) appeared to favour L1 use. Correlations between aspects of learners’ social networks and language development (lexical complexity scores in oral interviews) indicated complex and changing relationships over time, indicating that frequent amounts of L2 use during study abroad were associated with high lexical complexity scores.

Introduction

Study abroad is often thought to provide ideal conditions to promote second language (L2) development because of increased opportunities for informal L2 use with expert users of the target language. Research has shown, however, that opportunities for informal L2 use can be varied (Bown, Dewey, & Belnap 2015, Gautier & Chevrot 2015, Isabelli-Garcia 2006,
Documenting learners’ varied opportunities for language use during study abroad has the potential to majorly inform understandings about language development in this context. Examining learners’ social networks is one way to address this question. This is because investigating the extent to which study abroad learners interact with locals and other target language users can provide important insights about opportunities for interaction and L2 use that additionally serve as proxies to understand the availability and types of input that learners encounter while abroad (Coleman 2015, McManus, Mitchell & Tracy-Ventura 2014).

In study abroad research, an active line of research has examined learners’ social networks (Milroy 1987) as a way to understand the availability and types of input available to learners and the types of interaction learners engage in (for recent reviews, see Dewey 2017, Mitchell et al. 2017). This line of research has provided important information about the types of social networks construct while they are abroad (Dewey, Bown & Eggett 2012, Gautier & Chevrot 2015), the types of opportunities and personal relationships these networks help create (Isabelli-Garcia 2006, Kurata 2010), and the types of relationships that exist between aspects of learners’ social networks and language development (Baker-Smemoe, Dewey, Brown, Martinsen 2014, Mitchell et al. 2017). However, as noted by Dewey (2017), very little research to date has examined the longitudinal development of learners’ social networks while they abroad, including, for example, the extent to which different L1 and L2 networks co-exist, and how these change over time. The current study contributes to these gaps in previous research by examining the languages used in learners’ social networks, both in terms of the overall proportions of L1, L2, and mixed language use, as well as the different social contexts in which languages are reportedly used. These data are required to understand the extent to which language might be influenced by social context.
These data can then be used to examine and understand relationships between aspects of learners’ social networks and language development over time.

Social networks during study abroad

A common theme in the study abroad literature concerns learners’ reported difficulties in establishing and/or maintaining (high-quality) interactions with locals and native speakers in the host country (Magnan & Back, 2007; Wilkinson, 1998). While some studies have reported sporadic and/or superficial contact with native speakers, these are understood to occur relatively infrequently (e.g., language exchanges) to such an extent that learners tend not to be able to regularly engage in high-quality interactions that might lead to eventual language development (Baker-Smemoe, et al. 2014). Some research has suggested that reasons for such difficulties may be cultural, as reported in Kuntz and Belnap (2001), who found that Americans studying abroad in Morocco and Yemen rarely spoke Arabic outside of class because of difficulties gaining access to target language speakers. Isabelli-García (2006) indicated that high levels of motivation tend to lead to the development of more extensive social networks. In turn, more extensive networks are thought to lead to a wider variety of opportunities to engage in advanced-level discussion (Dewey et al., 2013; Lybeck, 2002).

However, an important shortcoming of research to date is that we lack a clear understanding about how learners’ social networks change over time, especially with regard to changing aspects of L1-, L2- and mixed-language-use. For example, given the typically short duration of learners’ stay abroad (e.g., four weeks or less in many research studies), we could expect that there is insufficient time for language practices to change. Furthermore, we lack a clear idea about the extent to which different social contexts might favour particular types of language use, such as whether the work/university environment might favour particular types of language use that are different from homelife and/or general free time. A
better understanding of how social contexts during study abroad favour different language practices would provide helpful recommendations in preparing students for study abroad.

**Social networks and language development**

Overcoming the initial difficulty in befriending expert users of the target language has been shown to have its advantages too: study abroad participants who seek out and befriend native speakers will use the L2 more and engage in more complex, extended discourse than those who do not (Dewey et al., 2013; Lybeck, 2002). That said, however, even when learners report extensive contact with expert users of the target languages, this contact might not lead to language development. In short, the numbers of contacts in a social network might not the important factor at play here. For example, Mendelson (2004) found no direct relationship between the students’ reported L2 contact hours and their gains in oral proficiency. Similarly, Miller and Ginsberg (1995) found no correlation between amount of interaction with expert users of the target language and L2 proficiency.

In terms of network dispersion, Baker-Smemoe et al. (2014) found that learners who belonged to many different social groups and had developed closer relationships with expert users of the target language showed greater language development than those who did not. In a similar vein, Gautier and Chevrot (2015) examined relationships between sociolinguistic development and learners’ social networks. Participants were seven Americans studying abroad in France. Five participants reported only English-speaking networks, whereas two participants reported mixed English- and French-speaking networks. These aspects of learners’ social networks were then connected to informal and formal variants of their speech (e.g. ‘ne’ deletion in French), which indicated decreased rates of formal variants only among learners with mixed language networks.
Some research has examined how aspects of learners’ social networks related to their language development, using large-scale questionnaires. This body of work has examined information about the number of contacts in learners’ networks (size), the intensity of interactions between contacts, and the extent to which learners interact with the same people in different social contexts. For example, Dewey et al. (2012) related aspects of network size, intensity, durability, density and dispersion to participants’ self-reported language learning. The strongest predictors of learning gains were length of stay abroad, the number of different networks that learners participated in, and time spent speaking the target language. Related, Dewey et al. (2014) found that study abroad programmes can play an important role in facilitating opportunities for social networking. In that study, the influence of social factors across six different study abroad programmes in six countries were compared. The contribution of social networking to learning outcomes was potentially masked by programme effects because some programmes were much more powerful than others in promoting L2 engagement, including the extent of social networking by sojourners (Dewey et al., 2014). However, when the participants in this same cohort were separated in a different study into two groups of “high gainers” and “low gainers”, across the different programmes (based on pre and post OPI scores), certain variables emerged which distinguished these two groups (Baker-Smemoe et al., 2014). These were: predeparture proficiency, predeparture intercultural sensitivity, and (the strongest factor) insojourn social networking. The “high gainers” developed “stronger and deeper relationships with fewer speakers”, which the authors believe to reflect greater opportunity for “more indepth and sustained personal interactions” (Baker-Smemoe et al., 2014, p. 482).

In summary, while previous research has provided rich accounts of learners’ social networks and possible connections with language development, very little research has used information about the role of high-quality interactions and the extent to which close
relationships established and cultivated during study abroad can lead to language
development. For example, the number of L2 contacts in a social network might have less
impact on language development than a close and personal relationship with an L2 user. In
short, we know relatively little about how learners’ most frequent interactions impact
language development and the extent to which the languages used might impact, positively or
negatively, on language development.

Current study

The current study is part of larger project examining L2 learners’ linguistic, social and identity
development during study abroad and how aspects of the study abroad context contribute to
that development (see Mitchell et al. 2017).

The current study examined (a) the development of learners’ social networks during a
nine-month stay abroad and (b) relationships between learners’ social networks and L2
linguistic development. Of particular interest is change during learners’ stay abroad, with
language and social network data collected at the beginning, middle, and end of the nine-month
stay abroad.

Social network data were collected via the Social Network Questionnaire (McManus et
al. 2014, Mitchell et al. 2017, see below for description) and are analysed in terms of the
languages used (a) overall, (b) in different social contexts, e.g., at work, at home, and (c) in
learners’ most frequent interactions (the ‘Top 5’, Mitchell et al. 2017).

In terms of L2 linguistic development, oral interview data were analysed in terms of
lexical complexity (D, MATTR, Guiraud’s Index). Oral interview data were analyzed because
oral language development during study abroad is a major interest of language program co-
ordinators and learners embarking on study abroad (see Mitchell et al. 2017)
Finally, relationships between lexical complexity and learners’ social networks were examined to ascertain (a) the extent to which aspects of learners’ social networks are related to language development (b) the nature and development of these relationships over time.

The current study sought to address the following research questions:

- How much L2, L1, and mixed language use do learners’ report in their social networks, and to what extent does L2, L1, and mixed language use change over the course of study abroad?
- To what extent are the languages used in learners’ social networks related to language development, and how do these relationships change during study abroad?

**Method**

**Participants**

Participants were 29 university-level learners majoring in French of a four-year BA Honours degree program in modern foreign languages at a large university in England. The majority of participants were English L1 speakers (n = 27), plus a Spanish L1 speaker, and a Finnish L1 speaker. Mean age was 21 (range: 20-24 years), mean length of previous French study was 11 years (range: 9-15 years), and mean age of first exposure to French was at 9.5 years old (range: 0-15 years old). Six participants were workplace interns, fifteen were teaching assistants, and eight were university exchange students, all situated throughout France including small and large, urban and rural French cities. All participants were recruited at the end of year two before going abroad for nine months.

**Test instruments**

**Social Networks Questionnaire**
The Social Networks Questionnaire (SNQ) was designed to collect information about participants’ social networks, in particular their regular contacts in five different social contexts (work/university, organized free time, general free time, home, virtual social activities; McManus et al. 2014, Mitchell et al. 2017). For each context, participants listed individuals with whom they had active contact over the past month. For each person listed, there was a series of follow-up questions (see Figure 1). First, the SNQ asked “how often do you interact with this person” and provided the following response options: “every day”, “several times a week”, “a few times a week”, and “a couple of times a month”. Second, participants were then asked, “what language(s) do you use when communicating with this person?”, followed by the following response options: “French”, “English”, “Spanish”, “Other”, “Mixture” (when “Mixture” was selected, participants were asked to specify which languages were used with approximate proportions). Third, the SNQ asked “What is your relationship to this person?”. Finally, participants were asked “How did you first meet?”

Additional questions were included for organized free time (What is the organized activity you do together, e.g. attend a choir group, go to a conversation class, attend the gym) and virtual social activity (What type(s) of social virtual activity do you use, e.g. Facebook, Skype?). Before completing the SNQ, participants were made aware about the questionnaire’s purpose, and reminded that the same person might appear in multiple contexts. After information had been provided for all the contexts, participants were asked to list their “Top 5”, i.e. the five people they interacted with the most across all contexts, and to make any further explanatory comments they wished. The full questionnaire is also available at https://www.iris-database.org

[Figure 1 here]
Oral interview

A semi-structured L2 oral interview was administered by a member of the research team at each of the data collection points. All interviewers used the same list of pre-established questions focusing on sojourners’ experiences and opinions about the sojourn. Interview questions were structured to encourage discussion of the present, the future and the past, as well as of hypothetical events. Each interview was administered in French and lasted approximately 20 minutes. Interview questions were pilot tested before the main study.

Data coding

Social networks data were collected from the Social Networks Questionnaire.

First, to calculate the languages used in learners’ social networks, the number of people in each learner’s social network were tallied followed by the language(s) used with each person (L2, L1, mixed). The total number of L1 contacts, L2 contacts, and mixed language contacts were calculated for each of the three data collection points (Visit 1, Visit 2, Visit 3, henceforth V1, V2, V3).

Second, to calculate languages used in each of the five social contexts (work/university, organized free time, general free time, homelife, and virtual), the number of people in each context of the learner’s social network and the language(s) used (L2, L1, mixed) were tallied. The total number of L1 contacts, L2 contacts, and mixed language contacts were then calculated in each social context at each data collection point (V1, V2, V3).

Third, to calculate the languages used in learners’ most frequent interactions, the contacts from learners’ ‘Top 5’ were tallied, which represented the people they most frequently interacted with irrespective of social context, and the language(s) used with each
person in the ‘Top 5’. For learners’ Top 5 interactions, frequencies for L1 contacts, L2 contacts, and mixed language contacts were calculated.

In terms of linguistic development, lexical complexity from the oral interviews was investigated. Each interview was digitally recorded and later transcribed following CHAT conventions (MacWhinney, 2000). Transcribers were L1 speakers or advanced-level L2 speakers of French, trained by members of the research team following specially developed transcription protocols. Each transcript was then checked for transcription accuracy by at least two members of the research team before analysis. All files were automatically tagged and manually disambiguated using CHAT’s part-of-speech morphosyntactic tagger (MOR and POST commands).

Lexical complexity was operationalized in three different ways in order to increase the reliability and robustness of the findings, as recommended by Housen, Kuiken, and Vedder (2012): Guiraud’s Index (Guiraud 1954), the moving-average type-token ratio (MATTR; Köhler & Galle, 1993) and D (Malvern & Richards 2002). While all measures account for the sophistication and range of productive vocabulary, they do so in slightly different but complementary ways. All use information about types and tokens and are claimed not to be influenced by text length (in contrast to the Type-Token Ratio, for example, see Jarvis 2013). Furthermore, using three different measures overcomes the limitations of a single measure. Firstly, Guiraud’s Index was calculated from the number of word tokens divided by the square root of the number of work types. MATTR was calculated using CLAN’s FREQ program (MacWhinney, 2000) with a window size of 100 words. D was calculated using CLAN’s VocD program.

In order to examine relationships between social networks and lexical complexity, Spearman’s rank order correlations were calculated between lexical complexity scores (D, Guiraud’s Index, MATTR) and the frequencies of L1-using, L2-using, and mixed-language-
using contacts in each participant’s Top 5, using the `spearman.ci` function in the `RVideMemoire` package (Hervé 2018) in R (R Core Team 2017). These correlations were used to ascertain relationships between language development and language use at each data collection point. To interpret the magnitude of the correlations, $r_s$ close to .25 are considered small, .40 medium, and .60 large (Plonsky and Oswald 2014). Confidence Intervals (CIs), rather than $p$-values, are used to interpret the location and precision of the correlation statistics. CIs that do not pass through zero or that include narrow intervals are taken to indicate less sampling error and greater confidence and precision in the test statistic (Larson-Hall and Plonsky 2015).

**Results**

**Social networks**

The proportions of L1, L2, and mixed language use in learners’ social networks during study abroad are visualized in Figure 2, which shows reasonable stability over time without many major changes. Contrary to expectations, perhaps, the data do not indicate that frequencies of L2-using contacts in learners’ social networks increase over time. As shown in Table 1, the number of reported contacts reduces over time, most notably for L1-using contacts (50 fewer contacts at V3 than at V1), with less change for L2-using contacts (13 fewer contacts at V3 that at V1). Although these results indicate that size of learners’ social networks appear to reduce over time (e.g., 105 fewer contacts at V3 than at V1), little change is observed in the proportions of L1, L2, and mixed language contacts over time. L1-using contacts represent the majority at each data point.

[Figure 2 here]
Figure 3 shows proportions of L1, L2, and mixed language contacts according to social context, thus providing a more fine-grained picture of interactive language use. L1 contacts are the most frequent in virtual contexts (e.g., Facebook, Skype, text messages), whereas L2 contacts are most frequent at work/university and in organized free time activities. In terms of general free time activities, proportions of L1 contacts appear to very gradually reduce over time. Taken together, these results indicate that particular contexts favour particular types of language interaction because L1 contacts are very frequent online, but L2 contacts are more frequent at work/university and in organized social activities.

[Figure 3 here]

Figure 4 visualizes the proportions of L1, L2, and mixed language contacts in learners’ ‘Top 5’, which represented learners’ most frequent interactions irrespective of social context (e.g. at work, at home). Similar to the results in Figure 2, the ‘Top 5’ data show fewer major changes over time. Most notable, however, is that L2 contacts tend not to represent learners’ most frequent interactions at any data collection point during study abroad. In fact, L1 contacts represent the most frequent interactions.

[Figure 4 here]

Taken together, these social network results indicate few major changes over time in terms of the proportions of L1, L2, and mixed language contacts in learners’ social networks during a nine-month stay abroad. L1-using contacts were the most frequent both in terms of general network size and learners’ most frequent interactions. However, analyses of L1, L2, and mixed language contacts according to social context showed that work/university and
organized free time favoured L2-using contacts, whereas virtual contexts appeared to favour L1-using contacts.

**Relationships between social networks and language development**

Relationships between social networks and language development were examined using information about learners’ Top 5, which represented the most frequent interactions in learners’ social networks, and lexical complexity scores (MATTR, D, and Guiraud’s Index). The correlations examined three types of relationship: (1) frequency of L1-using contacts and lexical complexity scores, (2) frequency of L2-using contacts and lexical complexity scores, and (3) frequency of mixed-language-using contacts and lexical complexity scores. Correlations were carried out separately for each data collection point (i.e., V1, V2, and V3).

[Table 2 here]

First, correlations between frequencies of L2-using contacts and lexical complexity scores indicated no relationship at either V1 or V2 (all CIs passed through zero, see Table 2). At V3, however, medium-to-large, positive correlations were found between L2-using contacts and all lexical complexity measures (see Figure 5). This result indicates that high frequencies of L2-using contacts was associated with high lexical complexity scores.

Second, correlations between frequencies of L1-using contacts and lexical complexity scores also indicated no relationship at either V1 or V2 (all CIs passed through zero, see Table 2). At V3, however, medium, negative correlations were found between the number of L1-using contacts and lexical complexity (see Figure 5). This result indicates that high frequencies of L1-using contacts were associated with low lexical complexity scores.
Finally, correlations between frequencies of mixed-language-using contacts and lexical complexity scores indicated no relationship at any of the three data collection points (all CIs passed through zero, see Table 2).

Taken together, these results indicate that (1) high frequencies of L2-using contacts in learners’ Top 5 were associated with high lexical complexity scores and (2) high frequencies of L1-using contacts were associated with low lexical complexity scores.

Discussion and conclusions

The current study examined the development of L2 learners’ social networks during a nine-month stay abroad in France, and the extent to which aspects of learners’ social networks were related to language development. Learners were twenty-nine university-level students majoring in French at a British university. The study examined two research questions. The first concerned the nature of learners’ social networks: what are the proportions of L2, L1, and mixed language use in learners’ social networks, and to what extent do these proportions change over time? Research question two examined the extent to which aspects of learners’ social networks were related to language development. Development over time was a major additional component of each research question, largely absent from previous research in this area.

Summary of findings

First, in terms of learners’ social networks, findings showed that L1-using contacts were the most frequent at the beginning, middle, and endpoints of study abroad. Proportions of language use additionally changed little over time. L2-using contacts represented around one
third of all contacts at all data collection points (32% at V1, 35% at V2, and 38% at V3). The gradual increase of L2-using contacts was matched by a gradual decrease in mixed language using contacts (23% at V1, 19% at V2, and 18% at V3). L1-using contacts remained constant over the nine months (45% at V1, 46% at V2, and 45% at V3).

Analysis of how these proportions of language proportions panned out across the different social contexts indicated that work/university and general free time seemed to favour interaction with L2-using contacts, whereas virtual interactions (e.g. Facebook, Skype, text messaging) appeared to favour interaction with L1-using contacts. The homelife context seems relatively balanced across L2, L1, and mixed language.

In terms of the ‘Top 5’, the results showed a very similar patterning of results to the previously-discussed findings. As a reminder, the ‘Top 5’ was a learner-generated list of five people they interacted with the most, which was thus used to understand learners’ most frequent interactions. These results showed few major changes over time. L1-using contacts represented the largest proportion of learners’ most frequent interactions (47% at V1, 43% at V2, and 53% at V3). L1-using and mixed-language-using contacts shared similar proportions, which slightly more L2-using contacts at V2 (30%) and V3 (22%).

Taken together, these results indicated that although L1-using contacts represented a large proportion of the people learners interacted with, they were most frequent in virtual contexts. L2-using contacts, although comparatively less frequent than L1-using contacts, were found to be most frequent in work/university and organized free time contexts.

Lastly, relationships between learners’ ‘Top 5’ and language development were examined using correlations. Learners’ ‘Top 5’ were used to examine relationships between learners’ most frequent interactions and language development, thus contrasting with much previous research examining such relationships which has focused on more general aspects of learners’ social networks (e.g., size, dispersion). These results showed no relationships
between social networks and lexical complexity at either the beginning (V1) and middle (V2) points of study abroad. At the end of learners’ stay abroad (V3), however, medium-to-strong sized correlations were found, indicating important relationships between learners’ most frequent interactions and language development. More precisely, correlations showed positive relationships for the number of L2-using contacts in learners’ ‘Top 5’, but negative relationships for the number of L1-using contacts in learners’ ‘Top 5’. These results indicated that high lexical complexity scores were positively associated with high numbers of L2-using contacts. In other words, the more L2-using contacts learners reported in their ‘Top 5’ interactions, the higher their lexical complexity scores tended to be. Conversely, the more L1-using contacts learners reported in their ‘Top 5’ interactions, the lower their lexical complexity scores tended to be.

Social networks over time

In terms of the proportions of languages used, a notable finding was the learners’ social networks appeared to change little over the course of the nine months. Although this finding is generally consistent with previous research in this area (e.g. Isabelli-Garcia 2006, Kurata 2010), few large-scale studies have examined social network development over time. A cursory examination of network sizes (see Table 1), however, showed that the numbers of contacts appeared to reduce over time, indicating that learners’ initial attempts at constructing social networks were initial large, but these narrowed over time. An important, but perhaps surprising, finding was that L1-using contacts represented the largest group of people in learners’ social networks while abroad. As Coleman (2015) argued, L1-using contacts are likely to represent an important safety net at the beginning of a stay abroad, and so it would be surprising not to see at least some interaction with L1 speakers, at least at the beginning of learners’ stay abroad. The results indicated, however, that L1-using contacts were mostly
found in virtual contacts: learners appeared not to be conducting their daily lives by interacting in the L1. Therefore, although L1-using contacts were a frequent group, they were not found in equally high proportions across social contexts. Furthermore, given the relatively short-term study abroad duration (in the context of their lives, not compared to other study abroad programs which tend to me much shorter, see Mitchell et al. 2017), it would have been important for learners to maintain relationships with people at home using virtual means. For example, all learners were returning to university study to complete their undergraduate degrees after study abroad, and many had romantic partners at home. As a result, contact with L1-using contacts by virtual means appears not so surprising when these learners’ lives are contextualized. It remains an empirical question, however, whether the same patterns would be found for learners who studied abroad after completing university study (on this matter, see Tracy-Ventura and Huensch 2018).

**Interaction frequency and language development**

The analysis showed relationships between learners most frequent interactions (the ‘Top 5’) and lexical complexity scores, but only at the end of the stay abroad (at V3). It is possible this relationship was only found at V3 because the impact of frequent social interaction on language development is a slow and gradual process. This is possible because friendships can take a long time to build up, and perhaps it is only meaningful interactions that lead to sustained conversations, and it is possibly these sustained opportunities for language use that are contributing to language development. Furthermore, it is notable that high numbers of L1-using contacts correlated negatively with low lexical complexity scores. These results indicate that establishing close and frequent relationships that include L2 use can contribute in an important way to L2 development. Much more work is needed here, though, in order to better understand the connections between learners’ ‘Top 5’ interactions and language
development. For example, would the same patterning of results be found for other linguistic features (e.g., morphosyntax)? Can learners’ Top 5 contacts be categorized into different social contexts, or do they tend to appear in multiple social contexts (e.g. work and homelife)? Relatedly, to what extent are learners’ most frequent interactions comparable? In short, analysis of learners’ ‘Top 5’ interactions are a useful starting point to understanding their most frequent interactions, but much more work is needed here.

Limitations and future directions

The current study has indicated important relationships between aspects of learners’ social networks and language development, which could fruitfully lead to a number of future research directions to better understand the current study’s findings. Future research should also aim to replicate these findings, in line with Porte and McManus’s (2018) recommendations for the field. For example, close replications that intentionally modify length of stay abroad, location, target language, or native language will provide important insights into the durability and robustness of these findings. As previously noted, one area for future research should include close analysis of learners’ most frequent interactions in order to understand what these look like. For example, are the most frequent L2-using contacts work colleagues, and over time do these relationships develop beyond the workplace? In which case, it could be expected that some aspects of social network multiplexity might connect with language development as well.

In conclusion, the current study has shown relationships between learners’ most frequent interactions and language development: higher frequencies of L2-using contacts correlated with higher lexical complexity scores in L2 speech, whereas higher frequencies of L1-using contacts correlated with lower lexical complexity scores in L2 speech. Learners’
social relationships, however, appear slow to develop, indicating that they are likely to be difficult to detect in shorter research designs.

References


Tables

Table 1. Raw frequencies of L1, L2, and mixed language contacts

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<th>L2</th>
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Table 2. Correlations results between Top 5 frequencies and lexical complexity scores.

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<table>
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<th></th>
<th>Mixed</th>
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<th>MATTR</th>
<th>Guiraud</th>
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<tr>
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Figures

Figure 1. Extract from the Social Network Questionnaire

<table>
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<th>4. Work/Uni Context, Person 1</th>
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<tbody>
<tr>
<td>These questions refer to the person below:</td>
</tr>
<tr>
<td>Kevin</td>
</tr>
</tbody>
</table>

**Question 1.**

How often do you interact with this person?
- [ ] every day
- [ ] several times a week
- [ ] a few times a week
- [ ] a couple times a month

**Question 2.**

What language(s) do you use when communicating with this person?

Please select ▼

**Question 3.**

What’s your relationship to this person?

[ ]

**Question 4.**

How did you first meet? (e.g., through a mutual friend, at work, etc. – just a brief response)

[ ]
Figure 2. Proportions of L1, L2, and mixed language contacts during study abroad
Figure 3. Proportions of L1, L2, and mixed language contacts according to social context
Figure 4. Proportions of L1, L2, and mixed language contacts in the ‘Top 5’
Figure 5. Correlation plots between frequencies of L2 and L1 contacts in the ‘Top 5’ and measures of lexical complexity at V3