

Filozofická fakulta Univerzity Palackého

Katedra anglistiky a amerikanistiky

**The Influence of Linguistic Environment
on the Process of Second Language Learning**

(Bakalářská práce)

Olomouc 2021

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Počet znaků: 60 057

Počet stran: 48

Olomouc 2021

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V Olomouci dne 3.5. 2021

Markéta Hubková

“Speaking without an accent is as impossible as typing without a font.”

The Language Nerds
(@the.language.nerds)

I would like to express my sincere gratitude to my supervisor Mgr. Šárka Šimáčková, PhD. for her help, support and insightful comments and suggestions in the process of writing. I would also like to thank a friend of mine, Damian Pendry, for his help as being a native English speaker.

V Olomouci dne 3.5. 2021

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Abstract

Estimating the amount of language use together with the quality and quantity of input and the variability between individuals is crucial in the community of English learners as they are frequently part of different university experiments. In that respect, the thesis focused on the question of language experience from advanced learners of English and the goal was to create an instrument to track the language experience. The first part covers factors that have shaped one's language proficiency. It is followed by a questionnaire which sought to detect individual aspects of learners' possible native English input in a naturalistic setting, in an instructional setting as well as by media exposure. The data showed that there were great differences between respondents when taking into consideration all forms of input. Only a minority of them experienced a naturalistic setting, most of them were exposed primarily to media – podcasts, TV shows, songs, etc.

Key words

language experience, input, naturalistic setting, instructional setting, media exposure, questionnaire

Anotace

Zjistit množství užívání jazyka spolu s kvalitou a kvantitou inputu a variabilitu mezi jednotlivci je zásadní v komunitě těch, kteří se učí anglický jazyk, jelikož jsou často součástí univerzitních experimentů. Vzhledem k této skutečnosti se tato bakalářská práce zabývá otázkou jazykové zkušenosti pokročilých studentů angličtiny a cílem bylo vytvořit nástroj, který by tuto jazykovou zkušenost zachytil. První část se zabývá faktory, které utvářejí jazykovou zdatnost jedinců. Na tuto část navazuje dotazník, který se snaží zachytit jednotlivé aspekty možného inputu od rodilých mluvčích v přirozeném prostředí, ve výukovém prostředí a také vystavením médií. Výsledky ukázaly, že mezi dotázanými byly velké rozdíly, když se vezmou v úvahu všechny formy inputu. Pouze menšina zažila přirozené prostředí, většina z nich byla vystavena médiím – podcasty, TV seriály, písně atd.

Klíčová slova

jazyková zkušenost, input, přirozené prostředí, výukové prostředí, vystavení médiím, dotazník

TABLE OF CONTENTS

1	Introduction	7
2	Literature Review	8
2.1	Naturalistic setting.....	8
2.1.1	Age of onset and length of residence	8
2.1.2	Lexical frequency.....	11
2.1.3	First language influence	11
2.1.4	Attention to form.....	12
2.1.5	Language experience.....	13
2.2	Instructional setting	15
2.2.1	Starting age and length of exposure	16
2.2.2	Other factors.....	19
2.3	Media influence	21
2.4	Research questions	22
3	Methods	23
3.1	The instrument and procedure	23
3.2	Participants	24
4	Results	25
5	Discussion	30
6	Conclusion	33
7	References	34
8	Appendix	40
8.1	Questionnaire.....	40
8.2	Respondents' score.....	43

1 Introduction

One of the crucial questions of Second Language Acquisition (SLA) research is the variability of language proficiency of second language (L2) learners together with the question of why it is impossible to achieve the proficiency comparable to that of native speakers. In various SLA theories, the role of the linguistic environment is more or less significant. There are some applied linguists and L2 researchers who say that the linguistic environment influences the variability less than others such as, for example, age at the onset of acquisition (Dekeyser & Larsen-Hall, 2005). Then there are others who assign a bigger role to the linguistic environment (Flege, 2009).

This thesis focuses on the topic of mastering the pronunciation of a non-native language from the point of view of a linguistic environment. The quantity and quality of language input counts as the main difference between foreign language learning and second language immersion learning. Learning an additional language at school, outside the community that speaks the language, is negatively influenced by the lack of consistent language input given by native speakers. How can this insufficiency be balanced? What effect does this balance have?

The two aims of the thesis are (1) to review SLA literature on the topic of the language environment or input and (2) to propose an instrument for tracking the amount of input received by advanced foreign language learners. In Chapter 2 previous approaches that deal with the questions of linguistic environment and SLA are discussed together with the factors that shape one's language proficiency. The literature review is followed by a questionnaire in Chapter 3 which maps the input conditions leading to a successful mastering of a second language in a formal environment. The questionnaire is intended for advanced learners of English who study the language as an academic subject such as students of the Department of English and American studies at Palacký University. The point of the questionnaire is to estimate the amount of language input individual learners receive and determine how variable input is across learners.

2 Literature Review

There are several variables that influence the final language proficiency of an individual. Many of them will be discussed but the most important one for this thesis is the role of input because the quantity and quality of input from a naturalistic setting differ from input out of a formal setting.

2.1 Naturalistic setting

2.1.1 Age of onset and length of residence

In the context of second language (L2) immersion learning, there is a clear relationship between the age at the onset (AO) of learning the second language and following performance in the L2. However, the age of onset is related to the amount of time spent in L2 environment, the so-called length of residence (LOR). Typically, there is a negative correlation between AO and LOR, meaning that participants with earlier AO spent a longer time in L2 country of residence (Higby and Obler, 2017). For instance, Flege et al. (2010) compared three groups of L2 learners varying in the age of onset (7–13 years old, 17–19 years old, 23–35 years old). The group with the earliest AO also had the longest LOR.

Many learners of a second language, even after learning and using their L2 for several years, keep a foreign accent. Many linguists believe that individuals who start learning a second language early in life, as children, have a greater chance in acquiring L2 sound system than individuals who start learning later in life (DeKeyser and Larson-Hall, 2005). According to some researchers, if an L2 learning begins after the end of a critical period¹ (CP), that is defined as “the concept of an endpoint, a point beyond which learning becomes difficult or impossible” (DeKeyser and Larson-Hall, 2005, p.

¹ A term first used in the context of language acquisition by Lenneberg in his book *Biological Foundations of Language* (1967)

97), acquiring a L2 to native-like level is not likely to happen. As fairly noted by DeBot (2005), there are arguments against the CP. One is that the difference between young and adult learners is caused by the different amount of time they have. Younger learners may be exposed to input longer and so get more exposure. Second argument is that some adult learners actually reach the native-like proficiency despite its difficulties. He also accurately commented that “what seems to be a critical period will then be a matter of individual differences other than age” (p. 66-67). Other researchers stand for the opinion that there might be more critical periods and each influence different linguistic abilities. Long (1990) suggested that the CP for phonology might be around the age of six, whereas for morphology and syntax around 15. However, researchers find the CP irrelevant in the context of formal language setting. Yet, results of different studies of an L2 foreign accent actually “support the view that the earlier in life one learns an L2, the better it will be pronounced” (Piske et al., 2001, p. 196). One argument against the CP is that it is difficult to define when the critical period starts and ends. Scovel (1988) says that it ends at 12 years, however, Patowski (1990) advocates that a CP ends at the age of 15 years. On the other hand, Long (1990) has a completely different idea, he suggests that the CP ends at the age of 6 years. His point of view, that an L2 is spoken without a foreign accent by learners with an AO of less than 6 years, is supported by the results of studies by Flege & Fletcher (1992) or Flege et al. (1995). Yet, Flege et al. (1997) also studied two groups of Italian-English bilinguals (with average AO of 6 years) and he found that AO of less than 6 years does not automatically mean that an L2 learner has a lower degree of detectable foreign accent.

As the previous studies show, the earlier a learner starts with an L2, the less accented they will be. Yet, there is no evidence that would support the idea that an L2 would be without accent if learnt before the age of 6 years or that it will be accented if they learnt in adolescence. In addition, there are other factors that influence the degree

of foreign accent, such as length of residence or amount of first language (L1) and L2 use.

A variable connected with AO is the length of residence in an L2-speaking country, a variable that measures how much L2 has been used for communication purposes. It seems that if the amount of L2 input matters, then the longer the residence is, the lower the foreign accent might be. Nevertheless, according to DeKeyser and Larson Hall (2005), LOR effects tend to be small and insignificant. It is considered that the LOR effect is significant only for immigrants whose input is from native speakers. Flege and Liu (2001) tested Chinese adults who had arrived in the USA at an average age of 27 years. Half of them had a rather short LOR (mean 2.7 years) and half had a relatively long LOR (mean 6.6 years). The group was divided into two groups according to their occupational status, the students from the two LOR-defined groups had been enrolled in an American university, the non-students had received no education in the US and held full-time jobs requiring little use of English. The students with short and long LOR needed to speak English often, while the non-students did not. All the participants have taken three tests: a listening comprehension test, a test of grammatical sensitivity and a test evaluating the identification of word-final English stops. When Flege and Liu (2001) did not consider occupational status in the analysis of the data, the 30 participants with an average LOR of 7 years did not differ significantly from the 30 participants of an average LOR of 2.1 years. The statistical analysis indicated that the effect of LOR depended on occupational status: the long-LOR students obtained higher scores than the short-LOR students on all three tests, while the differences between the short- and long-LOR non-students did not reach significance. This study shows that the length of residence is significant only for those who come in contact with native speakers in everyday situations. They also noted that the quality of L2 input has to be taken into consideration because if the input comes from a speaker whose native language is other than the L2, it is likely to influence the performance of the learner.

2.1.2 Lexical frequency

Lexical frequency refers “to the frequency with which individual lexical items occur in spoken or written language” (Trofimovich, 2011, p. 139). It is known that language users are sensitive to the frequency with which lexical items appear in linguistic input. Lexical frequency can be perceived as a measure of language experience in connection with input received by the learners, meaning that particular aspects of L2 phonology are easier to learn when repeatedly exposed to them in the input. In other words, the more often L2 learners experience certain phonological pattern (e.g. sounds, stress patterns) in the input, the more correctly they will produce this pattern. Yet, matching experience with frequency in this way is problematic because there is a possibility that lexical frequency could influence other measures of experience and make it insufficient (Trofimovich, 2011). One can be illustrated from the study by Trofimovich et al. (2007), whereby they were investigating the learning of voiced interdental fricative /ð/ by French learners of English. The study shows that a combination of two factors determined the learners’ accuracy in producing /ð/. One factor was lexical frequency, the other was a similarity in both languages (French and English) and how similar English /ð/ was to French consonants according to the learners and their judgment.

2.1.3 First language influence

It is obvious that L1 has an impact, to some extent, on L2 learning. For example, Suter (1976) and Purcell & Suter (1980) found that Arabic and Persian people have better phonological dispositions for English than native speakers of Japanese and Thai. However, L1 background was not considered together with other variables, such as length of residence or amount of L2 use, therefore the importance of the L1 is not certain.

Thompson (1991) in her study observed that L1 use had an influence on L2 pronunciation. She asked native speakers of Russian to participate in her study, they all maintained their mother tongue at work while being in the United States. According to Thompson (1991), the speakers' high L1 use might have had an impact on the degree of L2 foreign accent. She recommended that "a difference must be noted between subjects who have maintained their mother tongue and those who have lost it when it comes to estimating accent retention in the second language" (p. 200).

This theory was later tested by Flege et al. (1999) with native speakers of Korean who used English often and Korean rarely and also with those who used English rarely and Korean often. The result was as expected, Koreans who used English more had a better pronunciation than those of larger use of Korean. In summary, L1 use is a significant variable in the degree of L2 foreign accent.

Moreover, Flege (1987b) distinguished another assumption. As children develop their L1 phonetic system it is difficult for them to distinguish L2 sounds that are phonetically comparable to L1 sounds but they are not the same, Flege (1987b) calls it "equivalence classification". His study with native English learning French shows that the "new" L2 sounds, those that do not overlap with L1 sounds, will be learnt more easily. In that respect, studies by Oyama (1979) or Flege (1987a, 1988) show that L1 will strongly influence the L2 as the L1 sound system is entirely developed when L2 learning starts. Purcell and Suter (1980) noted that the differences between sound systems of L1 and L2 can help learners to acquire native-like pronunciation of L2 or the opposite. Moreover, learner's L1 may play a role not only at the level of individual sounds of the L2 sound system, but also at the suprasegmental level.

2.1.4 Attention to form

In SLA, attention to form means a focus on formal features of language, e.g., morphological markings, syntactic rules. There are techniques that should help draw a learner's attention to form, based on the assumption that it is difficult for the learner to

pay attention to linguistic features in the input of a conversation because these features are, for them, unnecessary or unimportant (Trofimovich, 2011).

Trofimovich (2008) studied attention to form in L2 phonological learning, he used auditory priming as a methodology to show the way L2 learners deal with spoken words under different conditions. In this kind of experiment, participants heard a set of words and they were later tested on another set of words (previously heard words and words new to the task). “A common finding here is that participants show a repetition effect, responding faster to previously heard words compared to new words” (Trofimovich, 2011, p. 143). Trofimovich (2008) studied this repetition effects for Chinese learners of English in two ways: directing learners’ attention to the meanings of the words and hearing the words without any attentional orientation. The results showed that attention to meanings decreased the size of repetition effects. Moreover, this finding was the most prominent for repeated words spoken by a different speaker (spoken by a male, later repeated by a female). Obviously, drawing learners’ attention to the meanings of the words might not help the learners to profit from non-identical repetitions as they would from repetitions by the same speaker.

2.1.5 Language experience

Second language learning emerges to be dependent on the amount of learners’ experience with a language. Trofimovich (2011), in favor of L2 phonological learning (the process of learning the segmental and suprasegmental aspects of an L2), discussed factors that influence how experience contributes to L2 learning. However, the greatest difficulty is defining accurately what language experience is. According to Flege et al. (1995), language experience is interpreted as length of residence in a L2 country. Purcell and Suter (1980) say it is the time an individual spends in contact with native speakers. Moreover, there is some inconsistency in what L2 input means. According to Flege (2009), input means “all L2 vocal utterances the learner has heard and comprehended, including his own, regardless of whether these utterances have been

produced correctly by L2 native speakers, or incorrectly by other non-native speakers of the L2” (p. 175). In other words, by comparing input and experience, it is possible to say that these two are the same variables. DeKeyser and Larson-Hall (2005) discussed the role of exposure and they concluded that it does not play that big role in predicting the outcome of L2 learning. It is due to the qualitative and quantitative differences in input received by adults and children and the differences in L2 use. They pay more attention to the age of acquisition because the later someone arrives to an L2 country, the less they use the L2.

In addition, Flege (2009) distinguishes other reasons for difficulty associated with the role of experience in L2 learning. One reason is that measures of experience are often confused with a variety of other variables, for example length of residence in the L2 country that is strongly correlated with learners’ age of first exposure to a L2. Another reason is that experience is very hard to measure experimentally. It has been only measured indirectly, through participants’ self-reports and these measurements are unreliable. As well as measuring one’s experience, expressing this experience is problematic, because there is not a single accurate definition of what language experience means. Moreover, in foreign language learning the experience of every individual is different even though they attend the same class. It is due to the extracurricular activities of a particular person or their personal interests in leisure activities that include any kind of experience with English, such as watching movies, videos, listening to music, playing video games, etc.

There are a few studies (Derwing et al., 1998) showing that native-like proficiency is more characterized by the suprasegmental learning than by the segmental. Trofimovich and Baker (2006) decided to study “whether L2 phonological learning is similar at the segmental and suprasegmental levels” (p. 5). They were interested whether the amount of L2 experience influences later production of L2 suprasegmentals. The results obtained show that both segmental and suprasegmental

learning requires a large amount of L2 experience. However, there are aspects (such as nativelike placement of tonal peaks) that might not be learnt to native-like level even with years of L2 exposure. They also noted that learners' age of first broad exposure to L2 may influence the L2 suprasegmental learning.

2.2 Instructional setting

Formal instruction can be characterized as an intentional and systematic instruction by a trained teacher. On one side, there are opinions that formal instruction is not a significant indicator of the degree of foreign accent of L2. On the other side, Flege & Fletcher (1992) came up with a result of their study that the formal instruction has an impact on the degree of L2 foreign accent. There are some studies that indicate that formal instruction might have an actual effect on the degree of foreign accent, but it depends on the attention the pronunciation gets in the foreign language classroom. For instance, Bongaerts et al. (1997) examined five learners of English whose English was comparable to native speakers. Those learners obtained training in a pronunciation of English sounds therefore their L2 learning became successful. In summary, classroom teaching has to include more attention to L2 pronunciation for formal instruction to be regarded as efficient for the degree of foreign accent of L2.

Muñoz (2008) discussed the distinctions between the two learning settings – naturalistic and foreign language learning. She assumes that these differences in input might be essential in later performance. She pointed out that foreign language learning is characterized by a number of features: “(i) instruction is limited to 2-4 sessions of approximately 50 minutes per week; (ii) exposure to the target language during these class periods may be limited in source (mainly the teacher), quantity (not all teachers use the target language as the language of communication in the classroom) and quality there is a large variability in teachers' oral fluency and general proficiency); (iii) the target language is not the language of communication between peers; (iv) the target language is not spoken outside the classroom” (p. 578-579).

Muñoz (2008) also noted that the critical period hypothesis is not relevant in the context of foreign language learning due to the low amount of input. It is significant only for those who experience a great amount of exposure to L2 as in an informal environment.

Saito & Hanzawa (2015) studied how extensive amount of foreign language instruction can influence the adolescent L2 learners' oral ability and what predicts the outcome of late SLA in foreign language classroom. The results show that if students have other opportunities to develop their abilities apart from the basic syllabus, some L2 learners can demonstrate high speaking proficiency. The lack of opportunities to communicate with a native speaker may be the reason for learners' foreign accent. They believe that the possibility to speak with a native speaker might be the crucial source for native-like language proficiency.

2.2.1 Starting age and length of exposure

According to Muñoz (2010), there are two significant factors in SLA – starting age of learning another language and time spent learning it (or being exposed to it). She studied the effects of age on L2 learning. She mentions a common opinion that children should start learning an L2 in school as soon as possible. It is based on the findings in naturalistic settings provided by many researchers that the younger the learners are, the more successfully they will acquire the L2. Except for the common finding that the earlier, the better, she also mentions that older learners are predicted to have a faster learning uptake at the initial stages of the process, but they are caught up by younger learners later. DeKeyser and Larson-Hall (2005) noted that it is due to the implicit learning² that children acquire, they are eventually more likely to reach the native-like language proficiency. However, comparing learners after a short period of time shows that the older starters surpass the younger ones due to adults use of explicit learning

² Learning in an incidental manner without awareness of what has been learnt

which gives them an initial advantage. BAF Project³ by Muñoz shows that in foreign language learning, younger starters do not automatically have the advantage of an early start.

Muñoz (2011) also studied whether starting age has any long-term effects on the language proficiency. The results obtained by her shows that there is no important correlation between starting age and scores of tests⁴ that dealt with proficiency, lexical and phonetic skills. It seems that starting age does not have a significant long-term effect. However, it must be noted that the participants of her study were not older than 30 and therefore, there might occur different results when doing research with older adults. Muñoz (2006) claims that the early-starting learners need to benefit from implicit learning in an immersion condition in order to have advantage over the late-starting learners in the future. Furthermore, she argues that if the late-starting learners benefit due to their superior cognitive ability⁵, this advantage will disappear as learners reach adulthood.

Moreover, Muñoz (2008) mentions the issues of initial age of L2 learning. While informal L2 learning measures the initial age of learning from the first significant exposure to L2, formal L2 learning takes it from the age of first insignificant exposure. The quantity and quality of these different exposures cannot be compared due to the lack of “optimal learning conditions” (p. 591).

Muñoz (2010) also deals with the length of exposure, or the number of hours of instruction, that is in a naturalistic environment equivalent for the length of residence in the L2 country. In this matter, DeKeyser (2000) suggests that at least 10 years of exposure is needed in order to make any comparisons. Muñoz (2010) then commented

³ The Barcelona Age Factor Project

⁴ Three types of tests that were given to a certain number of people to show whether there is any relationship or not

⁵ General exceptional intelligence

on the fact that in a naturalistic setting L2 input after 10 years of residence exceeds 50,000 hours. In formal settings, that amount of hours divided into weeks of 4 one-hour periods of learning would be more than 200 years. This shows how the quality and quantity of L2 input extremely differ in naturalistic and foreign language learning.

Muñoz (2011) noted that in naturalistic learning studies, length of residence has been used as a synonym for length of exposure. The real exposure to the target language has not been always measured correctly, therefore there might be differences concerning the amount and quality of input, i.e. two students with the same length of residence, but they differ in their language proficiency, because their exposure to the target language is unlike.

Some studies highlight that time is the advantage in early-starting learners. According to Carroll (1969), the most significant variable in SLA is time. The language proficiency is rather a matter of time spent learning than of the starting age of learning. Naturally, children have the advantage of being young, therefore they have more time to learn. Yet, time is more significant in the informal environment, for example living with a native speaker, than in a formal environment, such as learning in school (Purcell and Suter, 1980). Moyer (2009) in this matter noted that “(u)sing the target language informally, especially to build personal social connections beyond a formal instructional setting, is clearly significant for long-term syntactic . . . , phonological . . . , and even listening comprehension abilities . . .” (p. 166). So, if children have the advantage of time and it is combined with the informal environment, they are most likely to reach the language proficiency of a native speaker. As seen above, the conclusion that “the earlier, the better” is not relevant to all kinds of learning. DeKeyser and Larson-Hall (2005) in this matter noted that “instruction should be adapted to the age of the learner, not that learners should necessarily be taught at a young age” (p. 6).

2.2.2 Other factors

A discussed variable in SLA is an aptitude, an inherent ability that “cannot be altered through training” (DeBot, 2005, p. 69). The most known tests to detect one’s aptitude are the Modern Language Aptitude Test (MLAT) by Carroll and Sapon (1959) and The Pimsleur Language Aptitude Battery (PLAB) by Pimsleur (1966). These tests were constructed to correspond towards the way languages were taught in the classroom in the 1960s’, i. e. it did not include practice in communication skills. As these skills are an important part of L2 learning, these aptitude tests do not predict entirely the L2 ability.

Krashen (1981) also studied the questions of aptitude and attitude related to L2. Foreign language aptitude has been measured by tests with three major components (Carroll, 1973), but Krashen (1981) considers only two of them relevant to learning. One is “grammatical sensitivity” that is defined as “the individual's ability to demonstrate his awareness of the syntactical patterning of sentences in a language” (Carroll, 1973, p. 6). The second component related to aptitude is “inductive ability”, that is ability to “examine language material (in either auditory or printed form) and from this to notice and identify patterns and correspondences and relationships involving either meaning or grammatical form” (Carroll, 1973, p. 7).

Krashen (1981) also discusses other factors that shape one’s language proficiency. A confident person is more likely to filter out less input than those who are less confident since self-secure people tend to accept their necessary errors in L2 learning without any harm to his ego (H. D. Brown, 1977). Another discussed factor by Krashen (1981) is empathy. It is hypothesized that a more empathic person can easily go along with native speakers of an L2, therefore accept their input more easily. These two factors might be related to a positive attitude towards the classroom and the teacher because it is expected that self-confident students tend to feel more comfortable in the classroom and then they are more involved in the process of learning with the teacher.

Krashen (1981) likewise mentions two attitudinal factors – integrative and instrumental motivation⁶. Integrative motivation is the desire to integrate into the community that speaks the target language. These learners will be encouraged to interact more with speakers of an L2 to become a part of the community more quickly and effectively. Instrumental motivation is the desire to achieve a certain language level for practical reasons, such as higher salary or higher chance of getting to a university. DeBot (2005) correctly noted that these two types of motivation mix together, sometimes an individual is motivated by both. A student in a classroom might have an integrative motivation to learn the language to become capable of communicating in the L2, but at the same time, the student has an instrumental motivation to get better grades. Moreover, one’s motivation changes throughout the time.

Bailey et al. (1999) discussed the issues of foreign language anxiety (FLA) that many students face. There are studies providing a proof that FLA is negatively associated with language performance, final grades, or students’ self-ratings of L2 proficiency. The foreign language anxiety might be caused by the styles of instructions by the teachers. There may be students who are completely comfortable with speaking and listening tasks in the classroom, but may be anxious about writing tasks, or vice versa. Gregersen and Horwitz (2002) also dealt with anxiety. They correctly noted that individuals who are concerned with making errors, which is an inevitable part of learning languages, and who care what others think about them tend to rarely interact in the classroom. Gregersen and Horwitz (2002) compared these learners to perfectionists because:

[T]hey would want to speak flawlessly with no grammatical or pronunciation errors, and as easily as a native speaker. Rather than demonstrating less-than-perfect language skills and exposing themselves to the possible negative

⁶ Terms coined by Gardner and Lambert (1972)

reactions of others, perfectionist language learner would likely prefer to remain silent, waiting until they were certain of how to express their thoughts. (p. 563)

The results of anxious and non-anxious learners' self-reports show that the anxious ones have stricter requirements for their performance, tend to procrastinate more, care about others' opinions towards themselves, and tend to feel more concerned about their mistakes, including pronunciation errors.

2.3 Media influence

Apart from naturalistic and instructional settings, there are other ways to learn a foreign language, through out-of-school exposure from interactive and non-interactive media. Exposure to certain kinds of media may help improve language proficiency and, to be more precise, to improve listening comprehension and pronunciation. It includes movies, videos, podcasts, or even video games. Safranji (2015) studied to what extent learners of English improve their listening skills through watching movies with and without subtitles. The results of self-reports showed that 97% of students improved their listening comprehension by watching movies in English. Many of these students preferred movies with subtitles because they had thought that it would have enhanced their listening skills even more. The learners also believed that movies, being audio and visual channels, can provide them a better way of learning. In this matter, Almeida and Costa (2014) noted that watching programs with subtitles may improve one's ability to distinguish individual words and their pronunciation, including the differences between variations, such as British and American English.

Domas and Poštić (2018) studied how playing video games can influence English proficiency. Video games may provide a good kind of language input as they usually occur with in-game dialogues and players are exposed to spoken English. Moreover, certain games can be played by multiple people and they need to communicate in order to pass a level. However, they noted that it can also have a negative contribution to the language-learning process because not everyone playing these games is a native speaker

of English, therefore their pronunciation may be misleading. In a study by Domas and Poštić (2018), out of 96 people who were questioned, 71 responded that video games helped them learn English.

2.4 Research questions

Following the literature review, the purpose of this thesis was to track the language experience of learners who learnt their L2 English outside of a naturalistic setting. People differ in how much exposure they get (quantity of input) and there are many ways in which individuals can be exposed to L2 input (quality of input).

The goal was to identify the English language experience of the students in the English departments. The questionnaire tried to address as many aspects of language experience as possible including input provided in a naturalistic setting. The aim was to find out how many students have actually experienced a naturalistic exposure to English. In the case of an instructional setting, the questions asked were on how much exposure of native English students have had and what were the differences between them. Apart from those two environments, the goal was to identify other possible exposures to English in the form of interactive and non-interactive media.

3 Methods

3.1 The instrument and procedure

The data for this study were collected on the basis of a web-based questionnaire. A hyperlink to the survey was shared on a Facebook page and it was also shared with university students via Moodle discussion forum of the Department of English and American studies. The questionnaire (see Appendix) was designed to cover students' experience with English as it is the most convenient tool to map the experience. It also has a wide coverage, therefore it was possible to collect information from a large number of people. Moreover, a questionnaire is suitable for both qualitative and quantitative types of research. This survey included three types of questions – Yes/No questions, multiple choice questions (precisely single-answer questions), or open-ended questions.

The survey included a total of 36 questions. First six questions dealt with participants' background information, such as their age, gender or current study degree. Questions 7-11 focused on detecting participants' experience with English in an instructional setting, i.e. if they started before elementary school, how old they were or whether native English speakers taught them in school. Another group of questions dealt with their experience of English outside of school, for example staying in an English-speaking country, private tutor, summer camp, a foreign partner, or how often they speak in English with a native speaker. Then there was a set of questions that targeted participants' interest in English through media, such as movies, TV shows, videos, podcasts, audiobooks, songs, or video games. The last three questions paid attention to the influence of a non-native speaker on participants' English and which variety of English they preferred.

3.2 Participants

The participants of this study were students of the English Department of Palacký University in Olomouc. This is partly because students in this department are often involved as participants in various research projects in the field of second language acquisition conducted at the university. The aim of this thesis is to create an instrument that can be used to collect information about the L2 experience of such research participants.

The number of participants that met the requirements of the current study reached 178. Their age varied from 19 years old to 38 years old and the majority of them were females. Only 35 people were males and 6 people in total described their gender as not binary or they preferred not to say. At the time of gathering answers, 139 participants were studying towards a bachelor's degree and only 39 towards a master's degree.

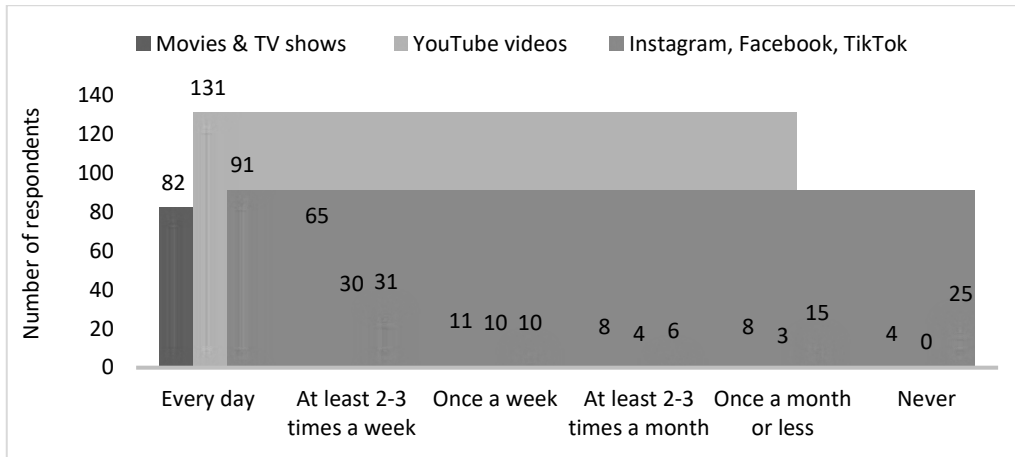
4 Results

Only 51 students learnt English before starting elementary school and their starting age of learning English was 4.5 years old on average. The majority of students started learning English at school (on average in the third grade of elementary school), however one respondent started learning English at the age of 16. Apart from the basic syllabus at school, half (89) of the students were taught by a native English teacher, mainly at high school. Out of all respondents, only 29 of them spent at least a month in an English-speaking country (on average 8 months, the longest 5 years).

Sixty students received instruction by a native English speaker in a private language school or by a private tutor, some of them in the Czech Republic, other students abroad. The time spent with private lessons varied significantly, ranging from only a couple of lessons to 10 years with the frequency of at least once a week or more. A minority of people (56 respondents) also used English as a communication language for at least a month with a foreign partner or at summer camp. At the time of responding, only 24 students did not spend any time speaking in English with a native speaker.

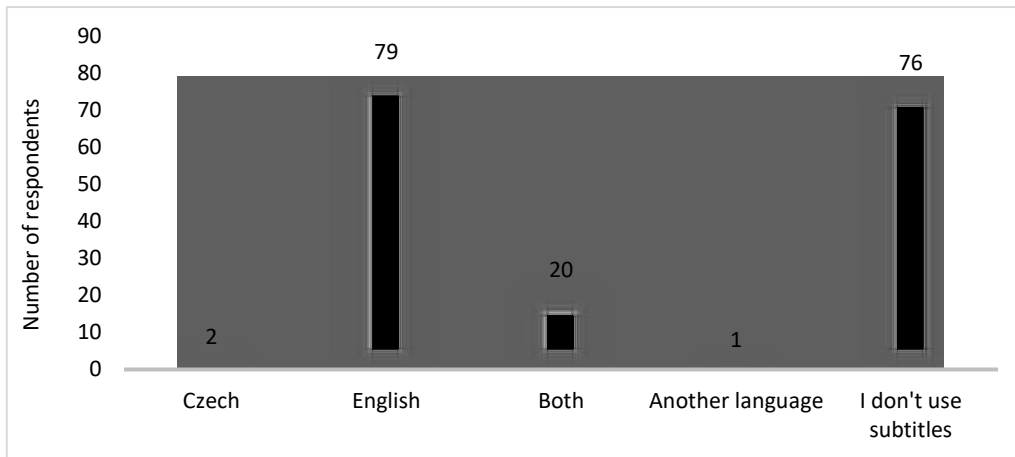
Listening to a specific variety of English did not matter to 97 of respondents, while 44 of them preferred British English, 31 preferred American or Canadian English, and only 6 students preferred another variety (Irish or Scottish).

Graph 1 shows how often respondents watch movies or TV shows in English in comparison to how often they watch videos on YouTube, or watching videos on Instagram, Facebook or Tiktok. The type of TV shows that they watch regularly, varied from sitcoms, documentaries, talk shows to TV series. Also, there were different kinds of channels that they watch on a regular basis – educational, gaming, fitness, shows, etc. As for other platforms, respondents mentioned many people they follow, others stated that they only watched random videos while scrolling the platform.



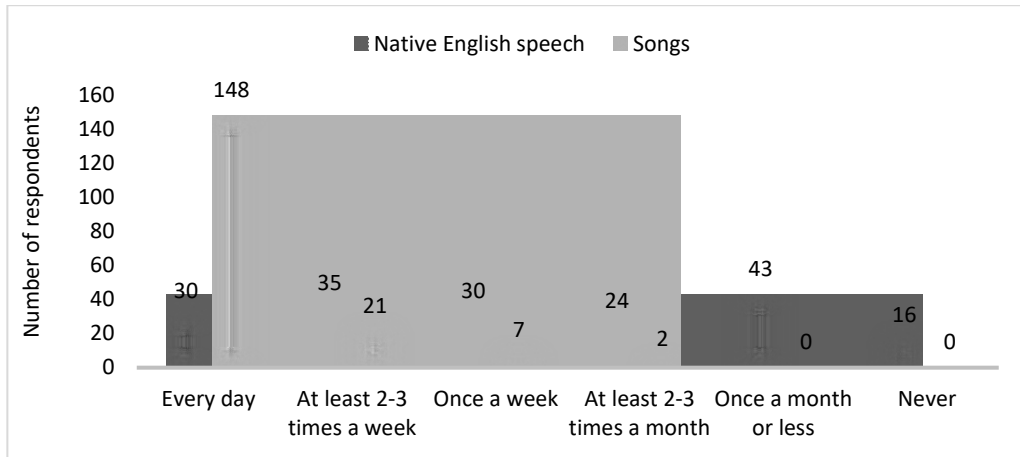
Graph 1: How often they watched different kinds of videos in English.

Graph 2 shows participants' usage of subtitles as they watched videos where they could have switched on the subtitles.



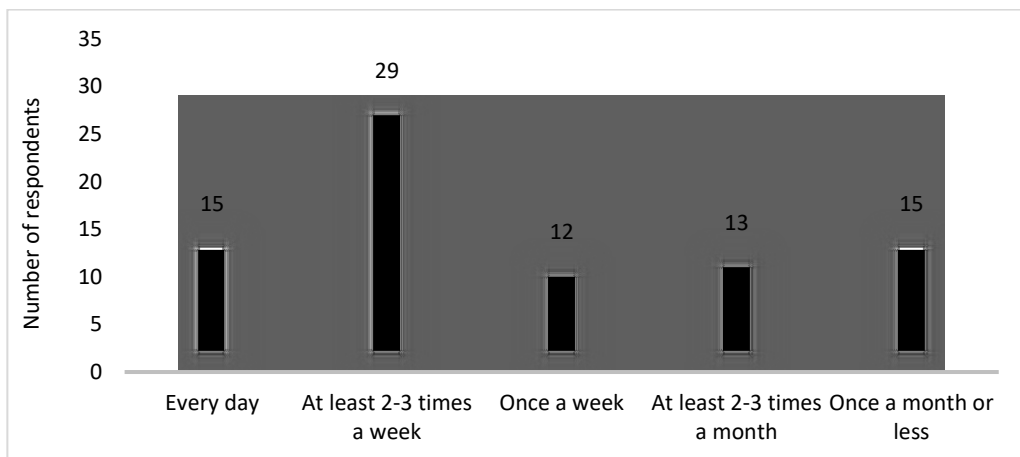
Graph 2: The usage of subtitles

Graph 3 shows how often they listen to English native speech, such as podcasts, radio programs, or audiobooks in comparison to listening to songs in English. Among the answers, there again appeared many types of podcasts that they listen to regularly – among others educational, true crimes, or business related. Moreover, the respondents named many music genres – pop, rock, Indie, rap, etc.



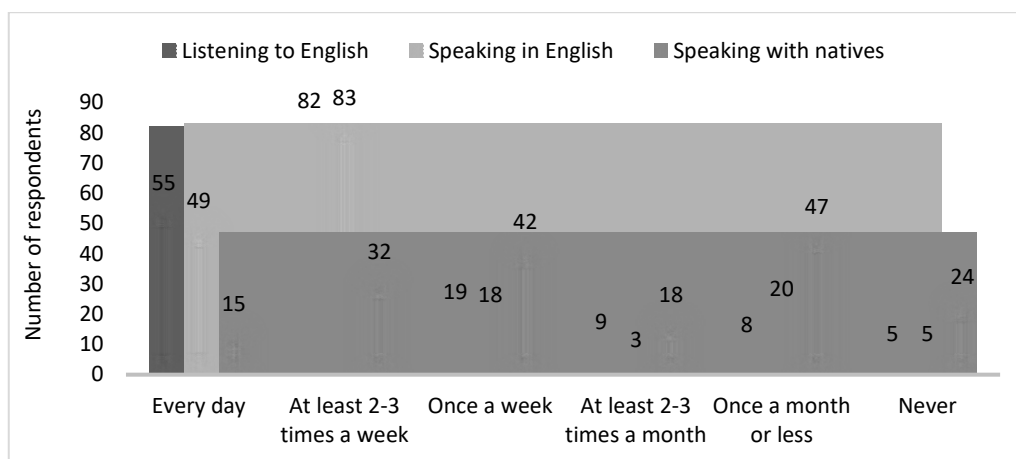
Graph 3: How often they listened to English audio.

Graph 4 represents how often respondents who played video games, that included spoken communication in English, actually played these types of games. Out of 84 respondents who played video games, 76 of them played games that involved communication with native speakers of English.



Graph 4: How often they played video games.

Graph 5 presents a comparison as to how often respondents listened to English spoken by non-native speakers and also as to how often they spoke in English with non-natives. It also shows how often they spoke with a native speaker of English.



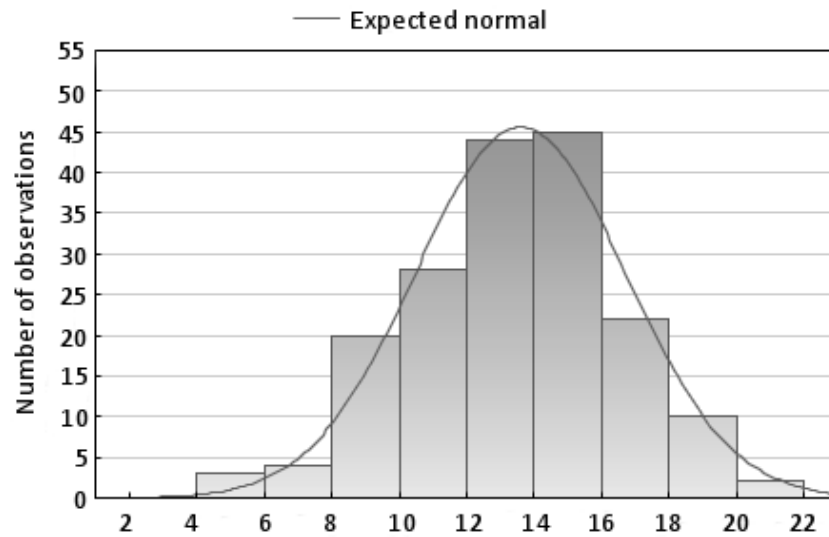
Graph 5: How often they interacted with natives and non-natives.

For a better distinction between individuals and their language experience, an evaluation system was created. The evaluation started with question 10, the first question that concerned the language experience. Every “Yes” was evaluated with 1 point, every “No” answer was worth 0 points. The open-ended questions were scored with 0.5 points if respondents mentioned any native English input and in the case of questions about playing video games (question 31 and 32), respondents scored 1 point only if both answers were “Yes”. The rest of the evaluating points are shown in the table below. The resulting points varied from 5 to 21 points (0 points as the minimum possible score and 29.5 points as the highest possible score to reach). The median for the language experience was 13.5 points, the mean equaled 13.592697, the standard deviation was 3,112505 and the interquartile range reached 4 (for each respondents’ score see Appendix).

	0	0.5	1	1.5	2
Q11	less than a year	a year	two years	more than two years	-
Q13	0-6 months	7-12 months	more than 12 months	-	-
Q14	2017 and earlier	in 2018	from 2019 onwards	-	-
Q16	less than a year	a year	two years	more than two years	-
Q17	once a month or less	at least 2-3 times a month	once a week	at least 2-3 times a week	every day
Q19	never/once a month or less	at least 2-3 times a month	once a week	at least 2-3 times a week	every day
Q20	never/once a month or less	at least 2-3 times a month	once a week	at least 2-3 times a week	every day
Q22	never/once a month or less	at least 2-3 times a month	once a week	at least 2-3 times a week	every day
Q24	never/once a month or less	at least 2-3 times a month	once a week	at least 2-3 times a week	every day
Q27	never/once a month or less	at least 2-3 times a month	once a week	at least 2-3 times a week	every day
Q29	never/once a month or less	at least 2-3 times a month	once a week	at least 2-3 times a week	every day
Q33	never/once a month or less	at least 2-3 times a month	once a week	at least 2-3 times a week	every day

Table 1: Evaluating system

Graph 6 shows the frequency distribution of the scores from the questionnaire. The distribution is unimodal. A Shapiro-Wilk test confirms that the English language experience scores from 178 advanced English foreign language learners are normally distributed, $W(178) = .99$, $p = .414$.



Graph 6: Frequency distribution of the scores

5 Discussion

The main goal of this thesis was to create an instrument for estimating foreign language experience. The questionnaire included questions about “cumulative” input received over the years of learning L2 (Q10 – Q18) as well as about the “current” exposure (Q19 – Q36). Moreover, the questions referred both to the interactive face-to-face input and non-interactive input.

The difference in language experience between some respondents varied a lot as some of them scored only 5 points but at the same time, there were respondents with 21 points. This shows that the quantity and quality of input varies a lot. There were respondents who spent more time learning and they were more engaged in the process of learning. On the other hand, there were also those who did not pay too much attention to acquiring an L2. The issue with the quality of input was also present in the evaluation, because a majority of people did not receive input in a naturalistic setting or by a native English speaker in an instructional setting.

Furthermore, it is possible to divide the questionnaire into two parts – the first part where respondents were asked about their cumulative experience that would reflect more distant language experience before university. The second part focused on the current input, that is more recent experience. In this matter, it was discovered that the total scores for each part did not correlate at all. Respondents who have had a limited (or zero) cumulative language experience before coming to university, actually had the current input developed, or vice versa. It did not limit the respondents in the process of L2 learning.

There are some variations of input considering the differences between individual respondents. What differs is the variation between the cumulative and current experience. Only 28 respondents scored at least 5 points (out of 10) in the cumulative part, a greater part of them have had very insignificant score. The differences between respondents in the current language use varied a little, 131 respondents scored at least

10 points (out of 29.5). When looking into the current exposure, it is possible to split it into current interactive (Q19, Q31+32, Q33) and non-interactive exposure (Q20, Q21 – 30, Q34 – Q36). The resulting numbers indicate that there were not great differences between respondents and that a majority of them was mostly exposed to non-interactive exposure.

As the answers also indicate students were exposed to English in many forms. Mainly, their exposure to English included everyday listening to songs and watching various videos. As mentioned in the literature review, having the subtitles switched on while watching various videos may impact the identification of individual words as well as the pronunciation. However, almost a half of the respondents did not use any kind of subtitles. The interpretation of the graph showing the usage of subtitles can be simplified because very insignificant number of respondents used subtitles in Czech or a different language and only 20 students used both (Czech and English), therefore it is possible to say that the respondents used English subtitles, or they did not use them at all.

Moreover, the number of video games players suggests that even games form an individual's proficiency in English as demonstrated in the previous study by Domas and Poštić (2018). This certainly works for those who played video games involving communication with native speakers not only listening to, for example, in-game dialogues.

Compared to listening to songs in English, when the majority of the respondents listened to songs every day, the individuals' frequency of listening to native English speech, such as podcasts or audiobooks, varied. Furthermore, the regularity of playing video games varied likewise.

There might also be a negative effect as people interacted with non-native speakers of English. A majority of the respondents came into contact with them at least

once a week in the form of listening to non-native's speech or respondents themselves have spoken with the non-natives.

To sum up, the questionnaire was a suitable instrument for capturing variation in language experience of foreign language learners. It effectively and quickly detected the experience of a larger number of people. It also allowed different kinds of questions with a set of suggested answers. However, a few questions were removed from the evaluation. First, those about non-native English input because it was not the intention of the study to subtract points and all the previous questions were designed in such a way. Second, even though the usage of subtitles is convenient for language learning, the question about using them was not suitable for the evaluating system because it was hard to evaluate people who did not use any kind of subtitles. Maybe they did not need them at all therefore, it would not be appropriate to give them 0 points, as, for example, to those who used Czech subtitles, which is not very effective in the process of foreign language learning.

For a better tracking of one's language experience, the questionnaire would need some improvements. First of all, open-ended questions (no. 11, 13, 14, 16) that asked about frequency or duration would be better to transform into questions with a set of options. It would simplify the evaluation. Second, questions no. 20, 22, 24 and 29 would require being more specific and ask respondents about native English. And lastly, in order to equalize the two parts and eliminate the disproportion of the number of questions in each part, the cumulative part would need to also include questions that are only in the current exposure.

6 Conclusion

The main aim of this thesis was to create an instrument that can detect language experience of advanced learners of English. The questionnaire was then tested with students of the Department of English and American studies at Palacký University. The major finding was the difference between individual students in the total score, it implies a significant variation of input in terms of quality and quantity. Moreover, a majority of respondents did not receive any input in the naturalistic setting. However, they have balanced it with media exposure, a possible tool to learn a second language. The current exposure was relevant for almost every respondent compared to the cumulative that did not play a significant role in the language proficiency. It shows that the exposure to non-interactive media form greater part of one's language proficiency.

To summarize the study, to prevent the insufficiency of the quality of provided input, students should, at least, have the opportunity to be exposed to input in the form of media, such as listening to podcasts, or watching movies in instructional settings since media exposure is one of the crucial tools that can support the process of mastering the pronunciation of the L2.

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8 Appendix

8.1 Questionnaire

1. Would you mind taking part in my questionnaire?

Yes No

2. Are you a student of an English Department?

Yes No

3. Please, choose a nickname.

4. How old are you?

5. How would you describe your gender?

Female Male Not binary I prefer not to say

6. I'm currently studying towards.

A bachelor's degree A master's degree A doctor's degree

7. Did you learn English before starting elementary school?

Yes No

8. If yes, how old were you when you started?

9. In which grade did you start learning English?

10. Were you ever taught by a native English teacher at high school or at elementary school?

Yes No

11. If yes, please note in which grade or grades? (e.g. in the second year in high school)

12. Have you ever spent more than 1 month in an English-speaking country?

Yes No

13. If yes, for how long?

14. Please, note when (e.g. June - July 2018).

15. Were you ever taught by a native English teacher outside of school? (e.g. in a language school, by a private tutor?)

Yes No

16. If yes, for how long?

17. And how often?

Every day At least 2-3 times a week Once a week
 At least 2-3 times a month Once a month or less

18. Have you ever used English for more than a month at a summer camp or with a foreign partner?

Yes No

19. How often do you speak in English with a native speaker?

Every day At least 2-3 times a week Once a week
 At least 2-3 times a month Once a month or less Never

20. How often do you watch movies and TV shows in English?

Every day At least 2-3 times a week Once a week
 At least 2-3 times a month Once a month or less Never

21. Can you name a show or shows you watch regularly?

22. How often do you watch YouTube videos in English?

Every day At least 2-3 times a week Once a week
 At least 2-3 times a month Once a month or less Never

23. Can you name a channel you regularly visit, a youtuber or a personality you follow?

24. How often do you watch videos in English on Instagram, Facebook or TikTok?

Every day At least 2-3 times a week Once a week
 At least 2-3 times a month Once a month or less Never

25. Can you name a person you follow who regularly creates videos in English on Instagram, Facebook or TikTok?

26. While watching videos in English where you can switch on the subtitles, what kind of subtitles do you use, if any?

Czech English Both I don't use subtitles

Another language

27. How often do you listen to native English speech, e.g. podcasts, radio, audiobooks?

Every day At least 2-3 times a week Once a week

At least 2-3 times a month Once a month or less Never

28. Can you name a podcast or radio program you listen to regularly?

29. How often do you listen to songs in English?

Every day At least 2-3 times a week Once a week

At least 2-3 times a month Once a month or less Never

30. Can you name a favorite singer or a band you listen to regularly?

31. Do you play video games that include spoken communication in English?
(e.g. dialogue by in-game characters, narratives, communication with other players in English,...)

Yes No

32. If yes, are native speakers of English involved?

Yes No

33. How often do you play these games?

Every day At least 2-3 times a week Once a week

At least 2-3 times a month Once a month or less Never

34. Do you like to listen to a specific variety of English?

I prefer British English I prefer American or Canadian English

It doesn't matter to me There is another variety I prefer

35. How often do you listen to English spoken by a non-native speaker? (e.g. lectures given by non-native teachers, songs performed by non-native singers, non-native YouTube personalities,...)

Every day At least 2-3 times a week Once a week

At least 2-3 times a month Once a month or less Never

36. How often do you speak in English with non-native speakers? (e.g. foreign partner, classmates, game partners,...)

Every day At least 2-3 times a week Once a week

At least 2-3 times a month Once a month or less Never

8.2 Respondents' score

Respondent	Q10	Q11	Q12	Q13	Q14	Q15	Q16	Q17	Q18	Q19	Q20	Q21	Q22	Q23	Q24	Q25	Q27	Q28	Q29	Q30	Q31+32	Q33	Q34
1	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1.5	0.5	0	0	1
2	0	0	0	0	0	1	0	0	0	0	0.5	0	1	0.5	0	0	0	0.5	1.5	0	0	0	0
3	0	0	0	0	0	0	0	0	0	1	1.5	0.5	1	0	0	0	0	0	2	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	1.5	0.5	0	0	1.5	0	1.5	0	2	0.5	0	0	0
5	1	0.5	0	0	0	0	0	0	0	0	0.5	0.5	2	0.5	0	0	0	0.5	2	0.5	0	0	0
6	0	0	0	0	0	0	0	0	0	0.5	1	0.5	1.5	0.5	2	0.5	0	0	1	0.5	0	0	0
7	0	0	0	0	0	1	1	1	0	1	0	0	1	0	0	0	0	0	2	0	0	0	1
8	0	0	1	0	0.5	0	0	0	0	0	2	0.5	2	0.5	0	0	0	0	2	0	0	0	0
9	1	0.5	0	0	0	0	0	0	1	0	0	0	2	0	1.5	0	1	0	1.5	0	0	0	0
10	0	0	0	0	0	0	0	0	0	1	2	0.5	2	0.5	0	0	0	0	2	0.5	0	0	0
11	0	0	0	0	0	0	0	0	0	0	2	0.5	2	0.5	0	0	1.5	0	1.5	0.5	0	0	0
12	1	0.5	0	0	0	0	0	0	0	0	0	0	2	0.5	2	0	0	0	2	0.5	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0.5	0	2	0	0	0	2	0	2	0	1	1.5	0
14	0	0	0	0	0	0	0	0	0	0.5	0.5	0	2	0.5	2	0	0.5	0	2	0	0	0	1
15	0	0	0	0	0	0	0	0	0	0	2	0	1.5	0.5	0.5	0	1	0	2	0.5	0	0	1
16	0	0	0	0	0	0	0	0	0	0	1.5	0.5	2	0.5	1	0	0	0	2	0.5	1	0	0
17	0	0	1	0	0	0	0	0	0	0	2	0	1.5	0	1.5	0	0	0	2	0.5	0	0	1
18	0	0	0	0	0	0	0	0	0	0	1.5	0.5	2	0.5	1	0	0	0.5	2	0.5	0	0	1
19	0	0	0	0	0	0	0	0	0	0	0	0	2	0.5	1.5	0.5	2	0.5	2	0.5	0	0	0
20	0	0	0	0	0	0	0	0	0	0	2	0.5	2	0.5	2	0	0	0	2	0.5	0	0	0
21	1	0.5	0	0	0	0	0	0	0	0	1.5	0.5	1.5	0.5	0	0	1.5	0	1.5	0.5	0	0	1
22	0	0	0	0	0	0	0	0	0	0	2	0.5	2	0	2	0	2	0	1.5	0	0	0	0
23	1	1	0	0	0	0	0	0	0	0	1.5	0.5	1.5	0.5	1.5	0	0	0	1	0.5	0	0	1
24	0	0	0	0	0	0	0	0	0	1	1.5	0.5	2	0.5	2	0	0	0	2	0.5	0	0	0
25	1	0.5	0	0	0	1	0.5	1	0	1	2	0	1.5	0	0	0	0	0	0.5	0	0	0	1
26	0	0	0	0	0	0	0	0	0	0	1.5	0.5	1.5	0	2	0	1	0	2	0.5	0	0	1
27	0	0	0	0	0	0	0	0	0	0	1.5	0	2	0	1.5	0	1	0	1	0	1	1	1
28	0	0	0	0	0	0	0	0	0	0	1.5	0.5	2	0.5	2	0.5	0	0	2	0.5	0	0	1
29	1	1	1	0	0	0	0	0	0	1	1.5	0	1.5	0	0.5	0	0	0	2	0	0	0	1
30	0	0	0	0	0	0	0	0	0	0	2	0	2	0.5	2	0	1	0.5	2	0.5	0	0	0
31	0	0	0	0	0	0	0	0	0	0	2	0.5	2	0.5	0	0	1.5	0.5	2	0.5	1	0	0
32	0	0	0	0	0	1	0.5	2	0	0	1.5	0.5	1	0.5	1	0	0	0	2	0.5	0	0	0
33	1	1.5	0	0	0	0	0	0	1	0.5	1.5	0	1.5	0	0	0	1.5	0	1	0	1	0	0
34	0	0	0	0	0	0	0	0	0	0	1.5	0.5	1.5	0.5	2	0.5	1	0.5	2	0.5	0	0	0
35	0	0	1	0	1	1	0	1.5	1	0	1	0.5	0	0	0	0	0	0.5	2	0	0	0	1
36	1	1.5	0	0	0	0	0	0	0	0.5	1.5	0	2	0	0	0	1	0	2	0	1	0.5	0
37	0	0	0	0	0	1	0.5	0.5	1	0	2	0.5	2	0	0	0	0	0	2	0.5	0	0	1
38	0	0	0	0	0	0	0	0	0	0	2	0.5	2	0.5	2	0.5	1	0	2	0.5	0	0	0
39	1	1	0	0	0	1	0.5	1	0	0	1.5	0.5	1.5	0	0	0	1.5	0	1	0.5	0	0	0
40	1	0.5	0	0	0	0	0	0	0	0	1	0.5	2	0	2	0	0	0	2	0.5	1	0.5	0
41	1	0.5	0	0	0	0	0	0	0	1	1.5	0	1.5	0.5	1.5	0	1	0.5	1	0	0	0	1
42	1	0.5	0	0	0	1	0	1	0	0	0.5	0	2	0.5	0	0	0	0	1.5	0.5	1	0.5	1
43	0	0	1	0	1	0	0	0	0	0	1.5	0	2	0.5	1.5	0.5	0.5	0	2	0.5	0	0	0
44	0	0	0	0	0	0	0	0	0	0	2	0.5	2	0.5	2	0	0.5	0.5	2	0.5	1	0	0
45	0	0	0	0	0	0	0	0	0	1.5	1.5	0	2	0	2	0	1.5	0	2	0	0	0	1
46	0	0	0	0	0	0	0	0	0	0.5	2	0.5	1	0.5	2	0.5	2	0.5	2	0	0	0	0
47	1	0.5	0	0	0	0	0	0	0	0	1.5	0.5	2	0.5	1	0	1	0	1.5	0.5	1	0.5	0
48	0	0	0	0	0	0	0	0	0	1.5	1.5	0.5	1.5	0.5	0	0.5	0	0	1.5	0.5	1	1.5	1
49	0	0	0	0	0	0	0	0	0	0.5	2	0.5	2	0	2	0	1.5	0	2	0	0	0	1
50	0	0	0	0	0	1	0.5	2	0	0	1.5	0.5	2	0.5	0	0	0	0	2	0.5	0	0	1
51	1	0.5	0	0	0	0	0	0	0	0	1.5	0	2	0.5	1	0	0.5	0	2	0	1	0.5	1
52	0	0	0	0	0	0	0	0	0	1.5	1.5	0.5	2	0.5	0	0	0	0	2	0.5	1	1.5	1
53	0	0	0	0	0	1	0	2	0	0	2	0.5	2	0.5	1.5	0	0	0.5	1.5	0.5	0	0	0
54	0	0	0	0	0	0	0	0	0	0	2	0.5	2	0.5	2	0.5	1.5	0.5	2	0.5	0	0	0
55	0	0	0	0	0	0	0	0	0	1.5	2	0.5	2	0.5	2	0	0	0	2	0.5	0	0	1
56	0	0	0	0	0	0	0	0	0	1	1.5	0.5	2	0.5	2	0.5	2	0	2	0.5	0	0	0
57	0	0	0	0	0	1	0.5	1.5	0	0	2	0	1.5	0.5	1.5	0	1	0	2	0	1	0	0
58	1	1.5	0	0	0	0	0	0	1	2	0	0.5	2	0.5	0	0	0	0.5	0.5	0.5	1	1.5	0
59	1	1	0	0	0	0	0	0	0	0	1.5	0.5	2	0	0	0	0.5	0	2	0.5	1	1.5	1

Respondent	Q10	Q11	Q12	Q13	Q14	Q15	Q16	Q17	Q18	Q19	Q20	Q21	Q22	Q23	Q24	Q25	Q27	Q28	Q29	Q30	Q31+32	Q33	Q34
60	0	0	0	0	0	0	0	0	0	2	0	0	2	0.5	0	0	2	0.5	2	0.5	1	2	0
61	1	1	0	0	0	0	0	0	0	0	2	0.5	2	0.5	2	0	1	0	2	0.5	0	0	0
62	0	0	0	0	0	0	0	0	0	0	2	0	2	0.5	2	0.5	1.5	0.5	2	0.5	0	0	1
63	1	1.5	0	0	0	1	0	1	1	0	1	0.5	1	0	0	0	0.5	0	2	0	1	1	0
64	0	0	0	0	0	0	0	0	0	0.5	2	0	2	0.5	1.5	0	0.5	0.5	2	0.5	1	1.5	0
65	1	1	0	0	0	0	0	0	0	1	1	0.5	2	0.5	1	0	0	0	2	0	1	1	1
66	1	0.5	0	0	0	0	0	0	0	1.5	1.5	0.5	2	0.5	1.5	0.5	0	0	2	0.5	0	0	1
67	1	0.5	0	0	0	0	0	0	0	1	1.5	0	2	0.5	1	0	0	0	1.5	0.5	1	1.5	1
68	1	0.5	0	0	0	0	0	0	1	0	2	0.5	2	0.5	0	0	0	0	1.5	0.5	1	1.5	1
69	1	0.5	1	0	0	0	0	0	0	0	0.5	0.5	2	0.5	0.5	0	1	0.5	2	0.5	1	1.5	0
70	1	1	0	0	0	0	0	0	1	1.5	2	0.5	1.5	0.5	2	0.5	0	0	1.5	0	0	0	0
71	1	0.5	0	0	0	0	0	0	0	0	2	0.5	2	0.5	1.5	0.5	1.5	0.5	2	0.5	0	0	0
72	1	0.5	0	0	0	0	0	0	1	0	2	0.5	2	0.5	0	0	1.5	0.5	2	0.5	1	0	0
73	1	1	0	0	0	0	0	0	0	1.5	1.5	0.5	2	0.5	0	0	1.5	0	2	0.5	1	0	0
74	0	0	0	0	0	0	0	0	0	0.5	1.5	0.5	2	0.5	0	0	1.5	0.5	2	0.5	1	1.5	1
75	0	0	0	0	0	1	0.5	1	0	0	2	0.5	1	0.5	2	0	0	0	2	0.5	1	1.5	0
76	1	1	0	0	0	0	0	0	0	0	2	0.5	1.5	0.5	2	0	0	0	2	0.5	0	1.5	1
77	0	0	0	0	0	0	0	0	0	1	2	0.5	2	0.5	0	0	1.5	0	2	0.5	1	1.5	1
78	1	0.5	0	0	0	0	0	0	0	0	2	0.5	2	0.5	1.5	0	1	0	2	0.5	1	0	1
79	0	0	0	0	0	0	0	0	0	1	2	0.5	2	0.5	2	0.5	2	0.5	2	0.5	0	0	0
80	0	0	0	0	0	0	0	0	1	1	1.5	0	2	0	2	0	0	0	2	0	1	2	1
81	1	0.5	0	0	0	1	1.5	1	0	0	1.5	0.5	0.5	0	2	0	0.5	0	2	0.5	0	0	1
82	0	0	0	0	0	0	0	0	0	2	1	0.5	2	0.5	2	0.5	1	0.5	1.5	0.5	1	0.5	0
83	0	0	0	0	0	0	0	0	0	0	2	0.5	2	0.5	2	0.5	2	0.5	2	0.5	0	0	1
84	1	1	0	0	0	0	0	0	0	0	2	0.5	2	0.5	1.5	0.5	0	0	2	0.5	1	1	0
85	0	0	0	0	0	0	0	0	0	1	1	0.5	1.5	0.5	2	0	0.5	0.5	2	0.5	1	1.5	1
86	1	1.5	0	0	0	0	0	0	1	1	2	0	1.5	0	1.5	0	2	0	2	0	0	0	0
87	0	0	0	0	0	1	0	2	0	0	1.5	0.5	2	0.5	2	0	0	0.5	2	0.5	0	0	1
88	0	0	1	0	0	0	0	0	1	1	2	0.5	1.5	0	2	0	1	0	2	0.5	0	0	1
89	0	0	0	0	0	0	0	0	1	0	1.5	0	2	0.5	2	0.5	1	0.5	2	0	1	1.5	0
90	0	0	0	0	0	0	0	0	1	2	1.5	0.5	2	0.5	2	0	1.5	0.5	2	0	0	0	0
91	1	1.5	0	0	0	0	0	0	0	2	0	0	2	0.5	1.5	0.5	0	0	2	0.5	1	1.5	0
92	1	0.5	0	0	0	0	0	0	1	1	2	0	2	0	2	0	0	0	2	0.5	1	0	1
93	1	1.5	1	0	1	0	0	0	1	0.5	1.5	0.5	1.5	0.5	1	0	0.5	0	2	0.5	0	0	0
94	1	1.5	0	0	0	1	1.5	1	0	1	1.5	0.5	1	0.5	0	0	0.5	0	1.5	0.5	0	0	1
95	1	1.5	0	0	0	0	0	0	0	1.5	2	0.5	2	0.5	0.5	0.5	1	0.5	2	0.5	0	0	0
96	0	0	0	0	0	1	0.5	1	0	0	0	0.5	2	0.5	1.5	0	1.5	0.5	2	0.5	1	1.5	0
97	0	0	0	0	0	0	0	0	1	2	1.5	0.5	2	0.5	1.5	0	0	0.5	1.5	0.5	1	1.5	0
98	1	0.5	1	0	0	0	0	0	0	1	2	0	2	0.5	0	0	2	0.5	2	0.5	0	0	1
99	0	0	1	1	0	1	1	1	1	0	1.5	0	2	0.5	0	0	1	0	2	0	0	0	1
100	1	1.5	0	0	0	0	0	0	0	0	1.5	0	2	0.5	2	0	2	0.5	2	0.5	0	0	1
101	0	0	0	0	0	1	1	1	0	0	1.5	0.5	2	0.5	2	0.5	0.5	0.5	2	0.5	0	0	1
102	0	0	0	0	0	0	0	0	0	1.5	2	0.5	2	0.5	2	0	2	0.5	2	0.5	0	0	1
103	0	0	0	0	0	0	0	0	1	1	1.5	0.5	2	0.5	1.5	0	1.5	0	2	0.5	1	1.5	0
104	1	0.5	0	0	0	1	0.5	1.5	0	0.5	0	0	2	0.5	2	0	1.5	0	2	0.5	0	0	1
105	0	0	1	1	1	0	0	0	1	1	1.5	0.5	2	0.5	1.5	0	0	0	2	0.5	0	0	1
106	1	1	0	0	0	0	0	0	0	0	1.5	0.5	2	0.5	2	0.5	1	0	2	0.5	1	0	1
107	1	1.5	1	0	0	0	0	0	1	0	2	0.5	2	0	2	0	0	0	2	0.5	0	0	1
108	1	0.5	0	0	0	0	0	0	0	1	2	0	2	0.5	2	0.5	0.5	0.5	1.5	0	1	1.5	0
109	1	0.5	0	0	0	1	0	1.5	0	0	1.5	0.5	2	0.5	2	0.5	1	0	2	0.5	0	0	0
110	1	0.5	0	0	0	1	0	0	0	1.5	2	0.5	2	0.5	2	0	0.5	0.5	2	0.5	0	0	0
111	1	0.5	0	0	0	1	0.5	1	0	0	1.5	0.5	2	0.5	2	0	0	0.5	2	0.5	0	0	1
112	0	0	0	0	0	1	1	1.5	0	1.5	2	0.5	1.5	0	2	0	0	0	2	0.5	0	0	1
113	0	0	0	0	0	1	0	1	0	1	1.5	0.5	1.5	0	2	0.5	2	0	2	0.5	0	0	1
114	1	1.5	1	0.5	0.5	0	0	0	1	2	1	0	1.5	0	1.5	0	0	0	2	0	0	0	1
115	1	1.5	0	0	0	1	1.5	0.5	0	1.5	0	0	1.5	0.5	0	0.5	2	0.5	2	0.5	0	0	0
116	0	0	1	0.5	0	0	0	0	0	0.5	2	0.5	2	0.5	1	0	1	0.5	2	0.5	1	2	0
117	1	0.5	0	0	0	1	0	0	1	0.5	1.5	0.5	2	0.5	1.5	0.5	1.5	0.5	2	0.5	0	0	0
118	0	0	0	0	0	0	0	0	0	1.5	1	0.5	2	0.5	2	0.5	1.5	0.5	2	0.5	1	0.5	1
119	0	0	0	0	0	1	0	1.5	1	1	2	0.5	2	0.5	0	0	0	0	2	0.5	1	1	1
120	1	1.5	0	0	0	0	0	0	0	0	2	0.5	2	0.5	2	0.5	0	0	2	0.5	1	0.5	1
121	1	1.5	0	0	0	1	0	2	0	0.5	1.5	0.5	1.5	0.5	2	0.5	0	0	2	0.5	0	0	0
122	1	1.5	0	0	0	0	0	0	1	1	2	0	2	0	2	0	1.5	0	2	0	0	0	1
123	0	0	0	0	0	1	0	1	0	1	2	0.5	2	0.5	0	0	0	0.5	2	0.5	1	2	1

Respondent	Q10	Q11	Q12	Q13	Q14	Q15	Q16	Q17	Q18	Q19	Q20	Q21	Q22	Q23	Q24	Q25	Q27	Q28	Q29	Q30	Q31+32	Q33	Q34
124	1	1	1	0	1	0	0	0	0	1	1.5	0.5	1.5	0	1	0	1.5	0.5	2	0	1	0.5	0
125	1	1.5	0	0	0	0	0	0	1	1.5	2	0.5	0.5	0	2	0.5	1.5	0.5	2	0.5	0	0	0
126	1	0.5	0	0	0	0	0	0	0	2	2	0.5	2	0.5	0	0	0.5	0.5	2	0.5	1	2	0
127	1	0.5	0	0	0	0	0	0	0	1.5	2	0.5	2	0.5	2	0.5	1.5	0.5	2	0.5	0	0	0
128	1	1.5	0	0	0	1	0	2	0	1	1.5	0.5	2	0.5	0.5	0	0	0.5	1.5	0.5	1	0	0
129	0	0	0	0	0	0	0	0	1	1	2	0.5	1.5	0.5	2	0.5	0	0.5	1.5	0.5	1	1.5	1
130	1	0.5	0	0	0	0	0	0	0	1.5	1.5	0.5	2	0.5	2	0.5	1.5	0.5	2	0.5	0	0	1
131	1	1.5	0	0	0	0	0	0	0	0	1.5	0.5	2	0.5	2	0	0.5	0.5	2	0.5	1	2	0
132	0	0	0	0	0	0	0	0	1	0	2	0.5	2	0.5	2	0	0.5	0.5	2	0.5	1	2	1
133	1	1	0	0	0	1	0	1	0	1.5	0	0.5	2	0.5	2	0	0	0	2	0.5	1	1.5	0
134	1	0.5	0	0	0	0	0	0	0	1.5	1.5	0.5	1.5	0.5	1.5	0	1	0.5	2	0.5	1	2	0
135	0	0	0	0	0	1	0	2	1	0.5	2	0.5	2	0.5	0.5	0	0	0	2	0.5	1	1	1
136	0	0	0	0	0	0	0	0	0	1.5	2	0.5	2	0.5	1.5	0	1	0.5	2	0.5	1	2	1
137	1	1.5	0	0	0	1	0	0	1	0	1.5	0.5	2	0.5	0	0	1	0.5	2	0.5	1	1	1
138	0	0	1	0.5	0	1	0.5	1	1	1	2	0	2	0	2	0	1.5	0	1.5	0	0	0	1
139	1	0.5	1	0	1	1	0	0.5	1	0.5	1.5	0	2	0	2	0	2	0	2	0	0	0	0
140	1	0.5	1	0	0.5	0	0	0	1	0	2	0.5	2	0.5	2	0.5	0.5	0.5	2	0.5	1	0	0
141	0	0	0	0	0	1	0.5	1.5	0	0	2	0.5	2	0.5	2	0.5	0.5	0	2	0	1	2	0
142	0	0	1	0	0.5	1	0	2	1	1.5	0.5	0.5	2	0.5	0	0	2	0.5	1.5	0.5	0	0	1
143	1	1.5	0	0	0	0	0	0	0	1.5	1.5	0.5	1.5	0.5	2	0.5	1	0.5	2	0.5	1	0.5	0
144	1	1	0	0	0	0	0	0	1	1	2	0.5	2	0.5	2	0	2	0.5	2	0.5	0	0	0
145	0	0	0	0	0	1	0	2	1	2	2	0.5	1	0.5	2	0.5	1.5	0	2	0.5	0	0	0
146	0	0	0	0	0	1	0	1.5	1	1	2	0.5	2	0.5	2	0.5	2	0	2	0.5	0	0	0
147	0	0	0	0	0	1	0	1.5	0	1	2	0	2	0.5	2	0	1.5	0.5	1	0.5	1	1	1
148	0	0	0	0	0	0	0	0	0	1.5	1.5	0.5	2	0.5	2	0	2	0.5	2	0.5	1	1.5	1
149	1	0.5	0	0	0	0	0	0	0	0	2	0.5	2	0.5	2	0	2	0.5	2	0.5	1	2	0
150	0	0	0	0	0	1	0.5	1	1	1.5	2	0.5	2	0.5	0	0	1.5	0.5	2	0.5	1	1	0
151	1	0.5	1	0.5	1	0	0	0	0	0	2	0	2	0.5	1.5	0.5	0	0	2	0.5	1	2	1
152	1	0.5	0	0	0	1	0.5	2	0	1	1	0.5	2	0.5	2	0	1.5	0.5	2	0	1	0	0
153	1	0.5	0	0	0	0	0	0	0	1	2	0.5	2	0.5	1.5	0	1.5	0.5	2	0.5	1	1.5	1
154	0	0	0	0	0	1	0.5	1	1	1.5	1.5	0.5	2	0.5	2	0.5	1	0.5	2	0.5	0	0	1
155	0	0	0	0	0	1	0	2	0	1.5	2	0.5	2	0.5	2	0.5	1	0.5	2	0.5	0	0	1
156	1	0.5	1	0.5	0.5	0	0	0	0	2	2	0.5	2	0.5	2	0	2	0	2	0.5	0	0	0
157	1	1.5	0	0	0	0	0	0	1	1	2	0.5	2	0.5	2	0.5	2	0.5	2	0.5	0	0	0
158	1	1.5	0	0	0	0	0	0	1	1.5	2	0.5	2	0.5	2	0.5	0.5	0.5	2	0.5	0	0	1
159	1	1.5	1	0.5	0.5	0	0	0	1	1	2	0.5	2	0.5	1.5	0.5	0.5	0.5	2	0.5	0	0	0
160	1	1.5	0	0	0	0	0	0	1	0.5	2	0.5	2	0.5	2	0.5	2	0	2	0.5	0	0	1
161	1	1	1	0	0.5	0	0	0	1	1.5	1.5	0.5	2	0.5	2	0	0	0	2	0.5	1	1.5	0
162	1	0.5	0	0	0	1	1	1	0	2	1.5	0.5	2	0.5	2	0	2	0.5	2	0.5	0	0	0
163	1	0.5	1	1	0	1	0.5	2	1	1.5	2	0.5	0.5	0	2	0.5	0.5	0	2	0.5	0	0	0
164	1	0.5	0	0	0	1	0	1.5	0	1	1.5	0.5	2	0.5	2	0.5	2	0.5	2	0.5	0	0	1
165	1	1.5	0	0	0	1	0	2	0	1.5	2	0.5	1.5	0.5	2	0.5	1	0.5	2	0.5	0	0	0
166	0	0	1	1	1	1	1.5	2	1	0.5	1	0.5	1	0	2	0.5	1	0.5	2	0.5	0	0	0
167	0	0	0	0	0	1	1.5	2	1	2	0.5	0.5	2	0.5	1.5	0.5	0	0.5	2	0.5	1	0.5	1
168	1	1	0	0	0	1	0.5	2	0	1.5	1.5	0.5	2	0.5	1.5	0	1.5	0	2	0.5	1	0.5	0
169	1	0.5	1	0	1	0	0	2	1	2	2	0.5	0.5	0	2	0.5	2	0	2	0.5	0	0	0
170	1	1.5	0	0	0	1	0.5	1.5	1	0.5	2	0.5	2	0.5	2	0.5	1.5	0.5	2	0.5	0	0	0
171	1	1.5	0	0	0	1	0	2	1	1	2	0.5	2	0.5	2	0	2	0	2	0.5	0	0	0
172	1	0.5	0	0	0	1	1.5	1	0	1	1.5	0.5	2	0.5	1.5	0	0.5	0.5	2	0	1	2	1
173	0	0	0	0	0	1	0	2	1	1.5	2	0.5	2	0.5	2	0.5	0.5	0.5	2	0.5	1	1	1
174	1	1.5	1	0	0	1	0	1	1	1.5	1.5	0.5	2	0.5	2	0	2	0.5	2	0.5	0	0	0
175	0	0	0	0	0	1	1.5	1	1	2	2	0.5	2	0.5	2	0	1.5	0.5	2	0.5	1	1	0
176	1	0.5	1	0.5	1	0	0	0	1	2	2	0.5	2	0.5	2	0	0	0	2	0.5	1	1.5	1
177	1	1.5	0	0	0	1	1.5	1	0	1	2	0.5	2	0.5	2	0.5	2	0.5	2	0.5	1	0.5	0
178	0	0	0	0	0	1	1	1.5	1	1	2	0.5	2	0.5	2	0.5	2	0.5	2	0.5	1	2	0

Respondent	Total	Cumulative	Current	Current interactive	Current non-interactive
1	5	2	3	0	3
2	5	1	4	0	4
3	6	0	6	1	5
4	7.5	0	7.5	0	7.5
5	8	1.5	6.5	0	6.5
6	8	0	8	0.5	7.5
7	8	3	5	1	4
8	8.5	1.5	7	0	7
9	8.5	2.5	6	0	6
10	8.5	0	8.5	1	7.5
11	8.5	0	8.5	0	8.5
12	8.5	1.5	7	0	7
13	9	0	9	2.5	6.5
14	9	0	9	0.5	8.5
15	9	0	9	0	9
16	9	0	9	1	8
17	9.5	1	8.5	0	8.5
18	9.5	0	9.5	0	9.5
19	9.5	0	9.5	0	9.5
20	9.5	0	9.5	0	9.5
21	10	1.5	8.5	0	8.5
22	10	0	10	0	10
23	10	2	8	0	8
24	10	0	10	1	9
25	10	4	6	1	5
26	10	0	10	0	10
27	10	0	10	2	8
28	10.5	0	10.5	0	10.5
29	10.5	3	7.5	1	6.5
30	10.5	0	10.5	0	10.5
31	10.5	0	10.5	1	9.5
32	10.5	3.5	7	0	7
33	10.5	3.5	7	1.5	5.5
34	10.5	0	10.5	0	10.5
35	10.5	5.5	5	0	5
36	11	2.5	8.5	2	6.5
37	11	3	8	0	8
38	11	0	11	0	11
39	11	4.5	6.5	0	6.5
40	11	1.5	9.5	1.5	8
41	11	1.5	9.5	1	8.5
42	11	3.5	7.5	1.5	6
43	11	2	9	0	9
44	11.5	0	11.5	1	10.5
45	11.5	0	11.5	1.5	10
46	11.5	0	11.5	0.5	11
47	11.5	1.5	10	1.5	8.5
48	11.5	0	11.5	4	7.5
49	11.5	0	11.5	0.5	11
50	11.5	3.5	8	0	8
51	11.5	1.5	10	1.5	8.5
52	12	0	12	4	8
53	12	3	9	0	9
54	12	0	12	0	12
55	12	0	12	1.5	10.5
56	12.5	0	12.5	1	11.5
57	12.5	3	9.5	1	8.5
58	12.5	3.5	9	4.5	4.5
59	12.5	2	10.5	2.5	8

Respondent	Total	Cumulative	Current	Current interactive	Current non-interactive
60	12.5	0	12.5	5	7.5
61	12.5	2	10.5	0	10.5
62	12.5	0	12.5	0	12.5
63	12.5	5.5	7	2	5
64	12.5	0	12.5	3	9.5
65	13	2	11	3	8
66	13	1.5	11.5	1.5	10
67	13	1.5	11.5	3.5	8
68	13	2.5	10.5	2.5	8
69	13	2.5	10.5	2.5	8
70	13	3	10	1.5	8.5
71	13	1.5	11.5	0	11.5
72	13	2.5	10.5	1	9.5
73	13	2	11	2.5	8.5
74	13	0	13	3	10
75	13.5	2.5	11	2.5	8.5
76	13.5	2	11.5	1.5	10
77	13.5	0	13.5	3.5	10
78	13.5	1.5	12	1	11
79	13.5	0	13.5	1	12.5
80	13.5	1	12.5	4	8.5
81	13.5	5	8.5	0	8.5
82	13.5	0	13.5	3.5	10
83	13.5	0	13.5	0	13.5
84	13.5	2	11.5	2	9.5
85	13.5	0	13.5	3.5	10
86	13.5	3.5	10	1	9
87	13.5	3	10.5	0	10.5
88	13.5	2	11.5	1	10.5
89	13.5	1	12.5	2.5	10
90	13.5	1	12.5	2	10.5
91	14	2.5	11.5	4.5	7
92	14	2.5	11.5	2	9.5
93	14	5.5	8.5	0.5	8
94	14	6	8	1	7
95	14	2.5	11.5	1.5	10
96	14	2.5	11.5	2.5	9
97	14	1	13	4.5	8.5
98	14	2.5	11.5	1	10.5
99	14	6	8	0	8
100	14.5	2.5	12	0	12
101	14.5	3	11.5	0	11.5
102	14.5	0	14.5	1.5	13
103	14.5	1	13.5	3.5	10
104	14.5	4.5	10	0.5	9.5
105	14.5	4	10.5	1	9.5
106	14.5	2	12.5	1	11.5
107	14.5	4.5	10	0	10
108	14.5	1.5	13	3.5	9.5
109	14.5	4	10.5	0	10.5
110	14.5	2.5	12	1.5	10.5
111	14.5	4	10.5	0	10.5
112	14.5	3.5	11	1.5	9.5
113	14.5	2	12.5	1	11.5
114	14.5	5.5	9	2	7
115	14.5	5.5	9	1.5	7.5
116	15	1.5	13.5	3.5	10
117	15	3.5	11.5	0.5	11
118	15	0	15	3	12
119	15	3.5	11.5	3	8.5
120	15	2.5	12.5	1.5	11
121	15	5.5	9.5	0.5	9
122	15	3.5	11.5	1	10.5
123	15	2	13	4	9

Respondent	Total	Cumulative	Current	Current interactive	Current non-interactive
124	15	4	11	2.5	8.5
125	15	3.5	11.5	1.5	10
126	15	1.5	13.5	5	8.5
127	15	1.5	13.5	1.5	12
128	15	5.5	9.5	2	7.5
129	15	1	14	3.5	10.5
130	15.5	1.5	14	1.5	12.5
131	15.5	2.5	13	3	10
132	15.5	1	14.5	3	11.5
133	15.5	4	11.5	4	7.5
134	15.5	1.5	14	4.5	9.5
135	15.5	4	11.5	2.5	9
136	16	0	16	4.5	11.5
137	16	4.5	11.5	2	9.5
138	16	5	11	1	10
139	16	6	10	0.5	9.5
140	16	4	12	1	11
141	16	3	13	3	10
142	16	5.5	10.5	1.5	9
143	16	2.5	13.5	3	10.5
144	16	3	13	1	12
145	16.5	4	12.5	2	10.5
146	16.5	3.5	13	1	12
147	16.5	2.5	14	3	11
148	16.5	0	16.5	4	12.5
149	16.5	1.5	15	3	12
150	16.5	3.5	13	3.5	9.5
151	17	4	13	3	10
152	17	5	12	2	10
153	17	1.5	15.5	3.5	12
154	17	3.5	13.5	1.5	12
155	17	3	14	1.5	12.5
156	17	3.5	13.5	2	11.5
157	17	3.5	13.5	1	12.5
158	17	3.5	13.5	1.5	12
159	17	5.5	11.5	1	10.5
160	17	3.5	13.5	0.5	13
161	17.5	4.5	13	4	9
162	18	4.5	13.5	2	11.5
163	18	8	10	1.5	8.5
164	18	4	14	1	13
165	18	5.5	12.5	1.5	11
166	18	8.5	9.5	0.5	9
167	18.5	5.5	13	3.5	9.5
168	18.5	5.5	13	3	10
169	18.5	6.5	12	2	10
170	19	6.5	12.5	0.5	12
171	19	6.5	12.5	1	11.5
172	19	5	14	4	10
173	19.5	4	15.5	3.5	12
174	19.5	6.5	13	1.5	12
175	20	4.5	15.5	4	11.5
176	20	5	15	4.5	10.5
177	21	6	15	2.5	12.5
178	21	4.5	16.5	4	12.5