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BACHELOR THESIS

L1 influence on stress placement in Czech adult speakers of English

Vliv mateřštiny na umístění přízvuku v mluvě dospělých českých mluvčích anglického jazyka

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I hereby declare that the bachelor thesis “Influence of L1 on stress placement in Czech adult speakers of English” is written by me and that all the sources used in the thesis are listed in the Works Cited section.

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ABSTRACT

This thesis deals with English word stress placement. It aims to examine the influence of L1 Czech on stress placement in the speech of Czech adult speakers of English.

The theoretical part explains what word stress is and what rules exist for its placement in the English language. Subsequently, it provides information about Czech word stress and the difficulties that Czech speakers of English may encounter due to the distinctions between the stress rules in Czech and English. In the practical part of the thesis, recordings of adult Czech speakers of English are analysed in order to examine which syllables they are likely to stress. The aim is to find out to what extent Czech speakers of English are influenced by Czech word stress placement in English words. The findings indicate that L1 influence is greater in the recordings of speakers who have not passed any English phonetics course. Moreover, the speakers tend to make more errors in words that have Czech equivalents. The results also demonstrate the importance of teaching correct pronunciation in relation to word stress placement.

Keywords: pronunciation, word stress, word stress placement, L1 influence, Czech ESL students

ABSTRAKT

Tato práce se zabývá umístěním slovního přízvuku v anglických slovech. Jejím cílem je prozkoumat vliv češtiny jako mateřského jazyka na umístění slovního přízvuku v řeči českých dospělých mluvčích angličtiny.

Teoretická část vysvětluje, co je to slovní přízvuk a jaká existují pravidla pro jeho umístění v angličtině. Následně informuje o českém slovním přízvuku a o problémech, které mohou rozdíly mezi českými a anglickými pravidly pro umisťování přízvuku představovat pro české mluvčí angličtiny. Pro účely výzkumu v praktické části práce jsou analyzovány nahrávky dospělých českých mluvčích angličtiny s cílem zjistit, na které slabiky kladou slovní přízvuk. Cílem je zjistit, do jaké míry jsou čeští mluvčí angličtiny ovlivněni českým umístěním slovního důrazu v anglických slovech. Praktická část dochází k závěru, že vliv mateřského jazyka je větší u nahrávek mluvčích, kteří neprošli žádným kurzem anglické fonetiky. Navíc tito mluvčí mají tendenci dělat více chyb ve slovech, která mají české ekvivalenty. Výsledky také ukazují důležitost výuky správné výslovnosti v souvislosti s umístěním slovního přízvuku.

Klíčová slova: výslovnost, slovní přízvuk, umístění slovního přízvuku, mateřský jazyk, čeští studenti angličtiny

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Introduction

English is a highly significant language, with increasing global influence in many fields, including education, travel, politics, and more. Since roughly a quarter of the world's population is already proficient in English, it is often referred to as a "global language" (Crystal, 2003). To attain fluency in English, one must acquire proficiency in speaking the language, among other skills. This requires paying close attention to even the most specific and detailed aspects of the language, including word stress placement. Learning correct stress placement can significantly enhance one's ability to communicate effectively in spoken English and can help achieve intelligible pronunciation. English word stress is therefore worthy of our focus, not only because understanding the rules of English word stress and practicing them regularly can bring the speakers closer to fluent and natural speech, but also because other aspects of connected speech rely on word stress, such as sentence stress, rhythm or intonation.

According to Underhill (2005), understanding English speech where the word stress is absent or misplaced can be challenging. It is therefore crucial to pay attention to the stressed syllables which are recognised through a higher level of prominence. Factors affecting prominence are pitch, loudness, length, and vowel quality, and they are usually combined. In isolation, English words have a specific stress pattern that they follow.

The fact that English word stress functions differently than word stress in Czech is what led me to focus on this phenomenon in more detail. I have observed incorrect pronunciation among fellow students at Charles University. Furthermore, I have heard some of my friends pronounce words so that they are not intelligible. This experience with incorrect pronunciation, particularly with incorrect word stress placement and the resulting lack of vowel reduction, is the reason for selecting L1 influence on word stress placement as the topic of my thesis.

The influence of a speaker's native language on their acquisition of English as a second language has been the focus of numerous studies. For instance, we can look at Weingartová, Poesová, and Volín's 2014 study *Prominence Contrasts in Czech English as a Predictor of Learner's Proficiency*, Volín, Poesová, and Weingartová's *Speech Melody Properties in English, Czech and Czech English: Reference and Interference*

(2015), or Sokolová's *The Pronunciation of Czech Teachers of English: Focus on Word-Stress* (2009). One aspect of L2 acquisition is the placement of word stress, which can be afflicted due to the speaker's native language. One of the most crucial aspects interfering with word stress acquisition is vowel reduction and the pronunciation of full vowels, as is explained in Poesová's 2015 article *Under the Baton of Schwa*. This thesis focuses on the influence of Czech on word stress placement in the speech of Czech adult speakers of English. The theoretical part draws on the descriptions and principles of English phonetics and phonology as presented by, for instance, Roach (2009) and Cruttenden (2001). Furthermore, in order to present a sufficient theoretical basis, the theoretical part contains information about Czech word stress and anticipated problems Czech speakers of English may face in the case of word stress placement. The practical part is based on audio recordings created by Czech adult speakers of English with English levels ranging between B1+ and C1. The recordings are analysed to determine the stress placement in the target words while reading a meaningful text.

1 Theoretical part

1.1 English word stress

It is generally acknowledged that there are two types of languages when it comes to word stress and thus languages with fixed word stress and free word stress. In languages with fixed stress, the stress is always tied to a specific syllable. Fixed stress can be found in languages such as Czech or Hungarian. German or Spanish are examples of free-stress languages. This is, however, a very broad classification. When we look at the English language, it is generally characterised as a language with free stress. This means, as explained by Cruttenden (2001), the main stress is not tied to any particular point in the chain of syllables constituting a word. Moreover, Gut (2009) argues that English operates with word stress which is "neither entirely free nor fixed" (p.89). According to Gut (2009), this is partly a result of the influence of historical events on the development of the English language, such as the conquest of England by the Duke of Normandy and the French rule in England. This all led to the English language having a plethora of foreign-origin words.

Stress is a phenomenon that occurs at the syllable level in which special intensity is provided to a syllable by an effort in speech, causing it to appear louder to the listener. This concept is defined by Liberman and Prince (1977) and every English lexeme has a standard stress pattern of stressed and unstressed syllables. According to Menhard (1991), not all syllables are equally prominent, with some pronounced with greater articulatory energy (stressed) and others with a small degree of breath force (unstressed). To understand which syllables can or cannot be stressed we need to understand the difference between strong and weak syllables. The fact that some of English's syllables are strong while others are weak is one of the most distinguishing characteristics of English. Whether a syllable is strong or weak can help us when deciding where to place the stress within a word. Generally speaking, strong syllables tend to be stressed and weak syllables are never stressed (Ashby & Maidment, 2005). Strong syllables are typically produced with longer vowel sounds and are louder and clearer than weak syllables. They are also often higher in pitch. Vowels in weak syllables tend to be shorter and differ in loudness and quality. The pattern of strong and weak syllables in a word is known as the word's

stress pattern. It is important to pay attention to strong and weak syllables in connected speech as they can affect the clarity and intelligibility of speech. According to Roach (2009), “unstressed syllables containing e, ɪ, u or a syllabic consonant will sound less prominent than an unstressed syllable containing some other vowel” (p.75).

We can look at stress from two perspectives: production and perception. “The production of stress is generally believed to depend on the speaker using more muscular energy than is used for unstressed syllables” (Roach, 2009 p.73). Concerning the perception of stress, “many different sound characteristics are important in making a syllable recognisably stressed” (Roach, 2009, p.73). The key term when talking about stress is prominence. It is probably the most important characteristic and the prominence of a syllable is related to the muscular energy required to produce it. There are four factors that together make a syllable prominent:

I. Loudness

The stressed syllable is louder than the unstressed ones. We can see this, for example, in the word “problem” /ˈprɒbləm/, when upon saying the word out loud, we can hear that the first syllable is stressed and is therefore perceived as louder than the second one.

II. Length (duration)

The length of the stressed syllable is greater than that of unstressed syllables. Again, we can confirm this by looking at the word “problem” /ˈprɒbləm/, where the first syllable is pronounced longer. This has a significant impact on prominence.

III. Pitch

Pitch relates to the frequency of vibration of vocal folds. The syllable is different when uttered in high pitch and low pitch. The stressed syllable is usually pronounced in a higher pitch.

IV. Vowel quality

A stressed syllable contains a vowel different in quality from neighbouring vowels. Stressed syllables always have a full vowel and unstressed syllables usually contain a reduced vowel (/ˈprɒbləm/). Moreover, the pronunciation of a full vowel in a stressed syllable can lead to more movements of the articulatory organs (lips, tongue, jaw, and teeth).

Loudness has been proven to be not as significant when detecting stressed syllables (Cutler, Dahan, & van Donselaar, 1997). This might come as a surprise since, interestingly, many listeners would claim it to be the most important or even the only element of stress. Furthermore, vowel quality is considered to be the least important aspect of English stress, however, in certain circumstances, it can prove to be more essential than the other prosodic elements of stress.

From a perceptual point of view, unstressed syllables seem shorter, lower in pitch, quieter, and contain vowel reduction (usually realised as schwa). Schwa draws attention to stressed syllables and "creates prominence contrasts crucial for smoother word recognition and message decoding" (Poesová, 2015, p.32).

The prosodic elements of stress, intonation, and rhythm play a crucial role in shaping the flow and emphasis of speech. These elements are not limited to single sounds but may be found in syllables, sentences, and phrases, making them most common in connected speech (Roach, 2009). Stress, rhythm, intonation, and pitch are among the suprasegmental elements (Skarnitzl, 2005). This means that they are higher speech units. According to Menhard (1991), even if some vowel and consonant sounds are not correctly formed, the proper stresses and pitches can be understood. However, even if all of the vowel and consonant sounds are correctly produced, if the stresses and pitches are incorrect, the utterance is unlikely to be understood (Menhard, 1991). Simply put, accurate speech flow appears to be more important than error-free sounds for intelligibility.

1.1.1 Function of stress

Word stress operates within individual words. Therefore, it influences the quality as well as the quantity of sounds and determines the rhythm of an utterance (Menhard, 1991).

One of the most important tasks of stress in English is to keep connected speech's natural rhythm. The main function of the English word stress is therefore instrumental.

In connected speech, rhythm refers to the pattern of stress and unstressed syllables in spoken language. Roach suggests that it is believed that “English speech is rhythmical, and that the rhythm is detectable in the regular occurrence of stressed syllables” (Roach, 2009, p.107). The language and dialect being used, as well as other elements like the speaker's emotions, emphasis, and speaking rate, can all have an impact on this pattern. For instance, it is common knowledge that English has a stress-timed rhythm, which refers to a regular pattern of stressed syllables with varying intervals of unstressed syllables (Laver, 1994). Other characteristic features of stress timing are the reduction of vowels in unstressed positions and word boundaries not always corresponding to stress boundaries. The contrast between stressed and unstressed syllables is a distinctive feature of the English language.

In contrast, we have languages such as Spanish or French which are considered to have a syllable-timed rhythm. Both stressed and unstressed syllables are of approximately equal length. The interval between stressed syllables is adjusted according to the number of unstressed syllables occurring in an utterance (Roach, 2009). Moreover, contrary to stress-timed rhythm, there is no tendency to reduce vowels in unstressed syllables.

An important factor contributing to the control of the English rhythm is sentence stress. Because we communicate in utterances and not isolated words, the stress placement in connected speech may differ from when we pronounce words separately.

Sentence stress refers to the emphasis given to certain words in a sentence. This means that sentence stress emphasises words in sentences “according to their relative importance” (Menhard, 1991, p.35). This emphasis can change the meaning of the sentence or affect how it is understood. The placement of stress in an utterance is “determined largely by the meaning which the utterance is intended to convey, in the particular circumstances in which it is uttered” (Cruttenden, 2001, p.249). The placement of sentence stress can also help to differentiate between similar-sounding words and can make it easier to understand spoken language.

In a sentence, the most important word or words are typically stressed. For example, in the sentence “I’m going to the park”, the word “park” is stressed because it is the most important word in the sentence. Words that are usually stressed are content or lexical. Typically stressed are nouns, then also lexical verbs, adjectives, adverbs, numerals, longer prepositions and conjunctions (in front of, because), and lastly certain types of pronouns (demonstrative, interrogative, reflexive, and most indefinite pronouns). Nonetheless, there are exceptions to this group of words that tend to be stressed in a sentence, for example when we use compound nouns (see chapter 1.2.6). Another case is when, for rhythmic reasons, the stress in a phrase disappears (the word undergoes stress shift – see chapter 1.3). Usually, when the normally stressed word has more grammatical than lexical function, the word becomes unstressed or receives secondary stress. Words which are usually unstressed are structural. This concerns articles, auxiliary verbs, most modal verbs, short prepositions and conjunctions, and personal, possessive, and relative pronouns. There are exceptions in this group of words, too. Auxiliary and modal verbs become stressed, for instance, in imperative sentences, short answers or question tags. It is important to remember that any word can carry stress if the situation requires it and if the speaker wants to emphasise a certain word or convey a certain meaning.

Lastly, word stress also has a distinctive function sometimes referred to as functional stress change. Roach (2001) states that in some languages the position of the strongest stress may affect the meaning of the word. Several words in English with the same spelling can be used as nouns or verbs. What helps us differentiate between these words is the placement of stress. For instance, most verbs are stressed on the second syllable while nouns are stressed on the first syllable (see chapter 1.2).

1.1.2 Primary stress

It may seem that there is a clear difference between stressed and unstressed syllables. However, we must distinguish between two levels of stress. In contrast to analysing words in continuous speech, studying them in isolation helps us to recognise stress levels more clearly. (Roach, 2009). The first level of stress, and also the strongest type of stress, is primary stress. Disyllabic words with one stressed and one unstressed syllable are the best example for this. The pitch on the stressed syllable typically "falls from a higher to a lower pitch" (Roach, 2009) Generally speaking, there is one main stress in the majority of English words, however, there may also be some secondary stresses in polysyllabic words. Polysyllabic words are stressed on more syllables, however, the level of stress on the syllables varies. Secondary stress is carried by syllables which are more prominent than unstressed syllables but less prominent than those with primary stress.

1.1.3 Secondary stress

Secondary stress is found in multi-syllable words and is typically indicated in dictionaries with a secondary stress mark.

If the primarily stressed syllable in a word is preceded or followed by more than one syllable, we need to distinguish the prominence of those syllables. The English language does that by placing secondary stress in the word. The secondarily stressed syllable contains a full vowel. In the case of two syllables preceding the main stress, the secondary stress usually falls on the first syllable. If there are more than two syllables before the main stress, the secondary stress placement may differ depending on which syllable contains a full vowel (Cruttenden, 2001). Secondary stress is often not as noticeable in spoken English as primary stress. "In some words there are even two secondary stresses, but it never falls on the syllable immediately preceding the main stress" (Menhard, 1991, p.31).

This all applies to words said in isolation, which is an artificial situation (Roach, 2009). It is easier for us to analyse stressed and unstressed syllables in isolated words rather than in connected speech.

1.2 Stress placement rules

Since English is not a language with fixed stress, like for example the Czech language, there are many rules, or tendencies, concerning stress placement. As Roach (2009) suggests, word stress should be seen "as a property of the individual word, to be learned when the word itself is learned" (p.76).

When native speakers come across a new word, they are usually able to pronounce it with correctly placed stress (Roach, 2009). This suggests that English speakers are probably able to categorise the word with a set of stress placement rules. According to Roach (2009), the rules may seem so complicated to readers that they feel it would be simpler to just study the stress for each word separately rather than learn the rules.

As already mentioned, primary stress in English words is not fixed on any specific syllable in a group of syllables formulating a word. It is, however, fixed in the way that every word has its own particular syllable which carries the main stress (Cruttenden, 2001).

Many factors influence the placement of stress within a word. First of all, it must be determined whether the word is morphologically simple or complex since the rules for simple words and complex words are different. The placement of stress can be influenced by affixes. We will look closer at complex words in chapter 1.2.5.

Then the grammatical category must be determined. That means whether the word we are dealing with is a noun, a verb, or something else. If we focus on the word "present", there are three possible ways in which we can pronounce this word: as a noun or an adjective if the first syllable is stressed and as a verb if the second syllable is stressed. As a result, the grammatical category of the word affects how the word is stressed.

Furthermore, we must look at the phonological structure of syllables constituting a word. This means we must look at whether the syllables are weak or strong. The last two syllables are what fundamentally determine the placement of stress. The number of vowels and consonants in a word and the number of syllables are other key aspects.

The origin of words is also a marginal factor in determining the placement of word stress. For instance, words of French origin tend to be stressed on the last syllable. Words of Germanic origin are usually stressed on the first syllable.

And lastly, the context in which a word is uttered can also contribute to stress placement.

1.2.1 Functional stress change

There are words which have the same spelling but can occur as different word classes and thus differ in stress pattern (Roach, 2009). These words when realised as nouns or adjectives are stressed on the first syllable but when these words occur as verbs it is the second syllable which carries the stress. For instance, the word "object" can be pronounced with an emphasis on the first syllable to mean a thing, or with an emphasis on the second syllable to mean to oppose or disagree with something. We can see the lexical function of word stress here. Below are some examples of word class pairs (Roach, 2009, p.87).

"abstract"	/ˈæbstræct / (A)	/æbˈstrækt/ (V)
"perfect"	/ˈpɜːfekt/ (A)	/pəˈfekt/(V)
"protest"	/ˈprəʊtest/ (N)	/prəˈtest/(V)
"rebel"	/ˈrebl/ (N)	/rɪˈbel/ (V)

1.2.2 One-syllable words

There are no problems regarding word stress in this category. One-syllable words have primary stress but it is typically not as important as the stress placed on syllables in multisyllabic words (Cruttenden, 2001). This is because one-syllable words are usually short and simple and their meaning is often clear without the need for emphasis.

1.2.3 Two-syllable words

Either one of the two syllables can be stressed, but never both. Generally, verbs tend to be stressed at the end of the word and nouns more often have a stressed syllable toward the beginning (Roach, 2009). With verbs, the general rule is that if the second syllable is strong, that syllable is stressed. If the second syllable is weak, then the first syllable is stressed (Roach, 2009). This rule is also followed by two-syllable adjectives. There are,

however, some exceptions: “honest” and “perfect”. Both adjectives have strong syllables at the end, but the first syllable carries the main stress (Roach, 2009). Since nouns are more commonly stressed at the beginning of the word, the rule here is slightly different. If the second syllable is weak, then the stress is placed on the first syllable (Roach, 2009). If the second syllable is strong, then that syllable is stressed. Two-syllable adverbs and prepositions adhere to the same rules as adjectives and verbs.

1.2.4 Three-syllable words

One of the major problems concerning word stress in three-syllable words is the difficulty of finding simple three-syllable words. If the final syllable of a simple verb is strong, it will carry the main stress: *enter'tain* (Cruttenden, 2001). If the last syllable of a simple verb is weak, then the preceding strong syllable will receive primary stress: *de'termine*. If the final and the penultimate syllables are weak, the initial syllable receives primary stress. As for nouns, they follow a different rule. The primary stress tends to be at the beginning of nouns unless the initial syllable is weak: *'emperor*. If the first syllable of a three-syllable noun is weak, then the primary stress is shifted to the next syllable: *po'tato*. If the last syllable of a three-syllable noun is strong it remains unstressed: *'intellect*. Three-syllable adjectives appear to follow the same rule as nouns: *'opportune*.

These are rules only valid for verbs, nouns, and adjectives. They do not apply to articles and prepositions (Roach, 2009).

1.2.5 Complex words

Until now we have only been dealing with simple words, that is words containing only one grammatical unit. Words with more than one grammatical unit are called complex words. It can be difficult to determine whether a word is simple or complex. This problem derives from the majority of polysyllabic words in English being of foreign origin. These words usually come from Latin or Greek. However, we must deal with these words based on rules for English morphology. According to Roach (2009), there are two types of complex words:

I. words created by adding an affix to the basic word form (the stem)
II. compound words made of two or more separate words

The analysis of the first group with affixes will be explained. Two types of affixes occur in the English language: prefixes and suffixes. Prefixes are added before the stem (e.g. prefix *un-* + stem *fair* = *unfair*) and suffixes come after the stem (e.g. stem *punish* + suffix *-ment* = *punishment*) (Roach, 2009). There are three different ways in which an affix can influence word stress:

i. the affix becomes the carrier of the stress: “personality” /ˌpɜːsənˈæləti /
ii. the affix does not affect the placement of word stress; the word stress remains unchanged: “unpleasant” / ʌnˈplezˌənt/
iii. the stress is placed on a different syllable: “magnetic” /mægˈnetik/

1.2.5.1 Suffixes

Suffixes are added after the stem of the word. Multiple suffixes can be used with some words. According to Roach (2009), we need to try and divide a word into stem + affix. This, however, poses a problem with words that seem complex but upon dividing they have a root which is difficult to treat as an English word. An example of this is the word “audacity”, which has a complex stem. Another issue is that it can be challenging to determine whether a word has just one suffix or several as in “personality”. In the case of words with more than one suffix, the stress pattern is established based on the final suffix. Therefore, it is crucial for foreign learners to understand the difference between the stem (a word before the addition of any affixes) and the root (the basis of a new word). "A stem may consist of a single root, of two roots forming a compound stem, or of a root (or stem) and one or more derivational affixes forming a derived stem" (Dixon, 2010, p.514).

Some suffixes do not change the stress placement in words. In other cases, the suffix becomes the main carrier of stress. Then there are many suffixes which cause the primary stress to shift from the original syllable to a different one according to the particular suffix.

I. Suffixes which do not affect stress placement – this type contains many common derivational suffixes (Cruttenden, 2001). The suffixes on which Roach (2009) and Cruttenden (2001) agree are:

- ‘*-cy’: con ˈsistency*
- *‘-ish’: ˈbookish*
- *‘-ment’: ˈpunishment*
- *‘-ly’: deˈcisively*
- *‘-y’: ˈfunny*

Furthermore, Cruttenden (2001) mentions most suffixes ending in -y and also others that Roach does not include, for instance:

- ‘-ary’: *inˈfirmary*
- ‘-ty’: *ˈdifficulty*
- ‘-ism’: *ˈalcoholism*
- ‘-ist’: *ˈseparatist*

Among the suffixes mentioned by Roach (2009) are also:

- ‘-age’: *ˈanchorage*
- ‘-al’: *withˈdrawal*
- ‘-en’: *ˈsharpen*
- ‘-ful’: *ˈwonderful*
- ‘-fy’: *ˈglorify*
- ‘-ing’: *aˈmazing*
- ‘-like’: *ˈbirdlike*
- ‘-less’: *ˈjobless*
- ‘-ness’: *ˈdryness*
- ‘-ous’: *ˈjoyous*
- ‘-wise’: *ˈclockwise*

II. Suffixes which attract primary stress

Suffixes which are mentioned in this category by both Roach (2009) and Cruttenden (2001) are:

- ‘-ade’: *blockˈade*
- ‘-eer’: *ˌvolunˈteer*
- ‘-esque’: *pictuˈresque*
- ‘-ette’: *ˌcigarˈette*
- ‘-ation’: *ˈnation*

Additionally, Roach (2009) also includes:

- '-ache': *mou ˈstache*
- '-aire': *ˌquestio ˈnnaire*
- '-ee': *ˌrefu ˈgee*
- '-el': *ho ˈtel*
- '-ese': *journa ˈlese*
- '-ete': *com ˈplete*
- '-illa': *va ˈnilla*
- '-ine': *rou ˈtine*
- '-ique': *u ˈnique*
- '-aque': *o ˈpaque*
- '-oon': *car ˈtoon*

III. Suffixes which move the stress to the immediately preceding syllable (Roach, 2009, p.84):

- '-eous': *ˌadvan ˈtageous*
- '-graphy': *pho ˈtography*
- '-ial': *ha ˈbitual*
- '-ic': *hi ˈstoric*
- '-ian': *ˌmathema ˈtician*
- '-ion': *per ˈfection*
- '-ious': *ˌosten ˈtatious*
- '-ify': *so ˈlidify*
- '-ity, -ety': *fer ˈtility*
- '-ive': *a ˈgressive*
- '-logy': *a ˈpology*

Cruttenden (2001) further recognises three types of accent-fixing suffixes and thus suffixes which:

a. fixate the stress on the final syllable of the stem (*-ic*, *-ion*, *-ity*)
b. fixate the stress on the penultimate syllable of the stem (e.g. *-ate*)
c. fixate the stress on the final or penultimate syllable of the root according to the weight of the final syllable (e.g. *-ative*)

Special cases we need to look at are suffixes *-ate* and *-ment*. The suffix *-ate* is neutral and does not influence the stress pattern. Although the stress placement stays the same it has a different pronunciation according to the word class. In nouns and adjectives, the suffix is reduced to schwa. If the suffix occurs in a verb it has a different pronunciation:

"associate" /əˈsəʊʃiət/ (N) /əˈsəʊsieɪt/ (V)

The suffix *-ment* follows a similar rule. That means when it occurs in a noun schwa is pronounced in the suffix. In verbs, there is /e/ pronounced in the suffix.

"experiment" /ɪkˈsperɪmənt/ (N) /ɪkˈsperɪment/ (V)

Secondary stress placement

Roach (2009) explains that a syllable which is less prominent than a syllable with primary stress, while also being more prominent than an unstressed syllable carries secondary stress. Roach (2009) also emphasizes the importance of understanding and correctly producing secondary stress in order to avoid confusion between words that have similar pronunciation but different meanings. Secondary stress is usually placed two syllables before primary stress.

When a suffix is added, the originally stressed syllable receives secondary stress:

iˈmagine - iˌmagiˈnation proˈnounce - proˌnunciˈation

In derived words, the secondary stress moves to the left. There need to be at least two syllables between primary and secondary stress:

conˈfirm - ˌconfirˈmation JaˈpanˌJapaˈnese

1.2.5.2 Prefixes

Prefixes do not usually have the ability to move the main stress. They are typically unstressed, or they might carry secondary stress. There is no prefix which always carries the main stress.

Fudge (2015) recognises stress-neutral prefixes and stress-repellent prefixes. Similarly, Cruttenden (2001) states that prefixes are mostly accent-neutral. He mentions, for instance, prefixes *de-*, *dis-*, *in-*, *mal-*, *mis-* which are described as stress-neutral by Fudge (2015) as well. Moreover, Fudge (2015) states that some prefixes are stress-repellent, such as *re-*, *com-* and *pre-*, meaning they never carry primary stress. Lastly, Roach (2009) comments on prefixes only marginally, since "their effect on stress does not have the comparative regularity, independence and predictability of suffixes, and there is no prefix of one or two syllables that always carries primary stress" (p.85).

1.2.6 Compound words

We will now move on to another type of word: compounds. Compounds are words made up of two independent words that can both occur in the English language. The resulting compound word can be written either as a single word, such as "toothbrush", or as two separate words, such as "ice cream". According to Roach (2009), sometimes words joined

as one are written without a hyphen (e.g. “keyboard”), and sometimes words are separated by a hyphen (e.g. “part-time”). Primary stress in compound words can fall on either the first or second constituent word, while secondary stress can fall on words that do not receive primary stress.

The compound with stress on the first element, also referred to as early stress, typically carries secondary stress if it is longer or is separated by a space. According to Libben and Jarema (2006), this is very common and most compounds belong to the group with initial stress. The compounds in this group include noun-noun compounds (e.g. “peace treaty”, “birthday”), verb-noun compounds (e.g. “drawbridge”), adjective-adjective compounds (e.g. “navy blue”, “bloodthirsty”) and verb-verb compounds (e.g. “babysit”) (Libben, Jarema, 2006). Cruttenden (2001) categorises compound words as compounds functioning as nouns, compounds functioning as adjectives and verbs, and pseudo-compounds. Among these categories, he divides the compounds into groups with initial stress and final stress. Compounds with initial stress, according to Cruttenden (2001), partly overlap with those mentioned in the work of Libben and Jarema (2006). However, he also lists compounds which have stress on the second part of the word and the first part carries secondary stress. These are, for instance, most compound adjectives with past participle or gerund (e.g. “bad-tempered”), man-made items (e.g. “brick wall”), compounds with a number or a value as their first component (e.g. “first-class”, “dollar bill”), compounds where a noun modifies an adjective (e.g. “dirt cheap”), or compounds functioning as verbs which have an adverbial first element (e.g. “downgrade”). Lastly, pseudo-compounds mentioned by Cruttenden (2001) are complex words which have no clear root (e.g. “microwave”). In such words, the primary stress is usually on the first element of the compound.

1.3 Stress shift

Stress shift, also known as variable stress, is a phenomenon in which the stress pattern of a word changes depending on its grammatical function within a sentence. Stressed syllables in English tend to occur at regular intervals in connected speech, with unstressed syllables falling between them (chapter 1.1.1). As a result, when words are used in different grammatical functions within a sentence, their stress patterns can shift in order to maintain this regular rhythm.

In most words, the position of the stressed syllable is fixed. However, the stress position is influenced by "the stress on other words occurring next to the word in question, or because not all speakers agree on the placement of stress in some words" (Roach, 2009, p.86). In some cases, stress can be shifted to the next stressed word (can be dropped), or, in longer words, the secondary and primary stresses can switch syllables to avoid a clash of two adjacent stressed syllables and create a more rhythmical phrase. Presumably, stress position may also be influenced by context. For instance, if an attributive adjective has a secondary stress which is initial, then that secondary stress becomes the only stress. If it is not initial, the stress can be shifted.

One example of stress shift can be observed in teen numbers, where the stress is shifted, for instance, in compounds defining a year, decade or century (e.g. *ˌeighˈteenth - ˌeighteenth ˈcentury*) as proved by Mompeán (2014). While stress shift is not a universal rule in English, it is a common feature of the language that reflects the complex interplay between phonology and grammar. Stress shift is an important aspect of English phonology and contributes to the unique rhythm and intonation patterns of the language.

Below are two more examples of stress shift:

ˌabsenˈtee - ˌabsentee ˈlandlord *ˌTenneˈssee - ˌTennessee ˈriver*

1.4 Czech word stress

Czech is a language with fixed word stress. In other words, Czech word stress is fixed on the first syllable of a word. Word stress in Czech has a delimitative function, which means that it signals word boundaries (Skarnitzl & Rumlová, 2019). Specifically, in the case of the Czech language, it signals the beginning of words, thus helping to divide the flow of speech into speech units (Skarnitzl, 2018). Moreover, the syllables that are stressed can have a shorter duration compared to the unstressed ones (Janota & Palková, 1974), making it harder for non-native listeners to identify them. According to Weingartová, Poesová, and Volín (2014), the acoustic manifestations of Czech word stress "do not usually include an increase of F0, intensity or duration" (p.236). The main purpose of length in Czech word stress is to indicate phonologically long and short vowels, rather than stressed or unstressed syllables (Janota & Palková, 1974).

Word stress in Czech is independent of the quality and quantity of the vowel. Any of the vowels that exist in the Czech language, including diphthongs, can occur in stressed and unstressed syllables (Skarnitzl, 2018). This also suggests that in Czech, there is no reduction of vowel quality in unstressed syllables. Moreover, the morphological structure of the word does not afflict word stress in any way (Skarnitzl, 2018). In multisyllabic words, the stress remains on the first syllable. However, if a monosyllabic preposition precedes the word, the stress often shifts to the following word, especially if it is long (Skarnitzl, 2014). The realisation of word stress in specific phrases is often influenced by the number of syllables in the words (Skarnitzl, Šturm, & Volín, 2016). Skarnitzl et al. (2016) state, that generally speaking, there is a tendency in languages not to realise stress on all the one-syllable words when two or more of them are combined to create an utterance. According to Skarnitzl et al.(2016), the current context of an utterance must be always taken into consideration while placing word stress. This is done in order to help the rhythm of speech. It is important to note that Czech is a language with a syllable-timed rhythm (chapter 1.1.1).

Skarnitzl (2018) states, that many foreigners are fascinated by the Czech word stress. He explains that these foreigners, including phoneticians, are familiar with the nature of Czech word stress placement, however, they are not able to identify the stressed syllables in connected speech. Skarnitzl (2018) explains that word stress is generally understood

as a phenomenon where one syllable is more prominent than the others, however, the typical features of prominence are not exhibited by stressed syllables in the Czech language.

1.4.1 Comparison of Czech and English word stress

Having looked at the nature of both, English and Czech word stress, we can now compare some of the different features of stress in both languages. According to Weingartová et al. (2014), "the stress systems of English and Czech do not coincide" and the Czech word stress "remains somewhat impalpable" (p.236). For a Czech speaker who is used to a language with fixed stress and no reductions, the English stress system can be entirely unpredictable (Weingartová et al., 2014).

According to Skarnitzl et al. (2016), who draw on the typology of languages first suggested by Bruce Hayes, we differentiate between languages which have stress at the beginning of the speech unit (iambic languages) or the end (trochaic languages). Czech is subsumed among iambic languages. However, Skarnitzl et al. (2016) consider English to be iambic as well, even though there is irregularity in word stress placement.

The next criterion to consider is whether a language has fixed or free stress. The way that lexical stress is realised in Czech and English is different. Czech is a language with stress fixed on the first syllable, while English is a language with free stress. Placement rules, or tendencies, in English are quite complicated as opposed to Czech. Unlike the English word stress, the Czech word stress does not have a distinctive function meaning we are unable to distinguish between word classes in isolated words. Learning the English stress patterns requires a focus on the correct placement of the stressed syllable as well as mastering the correct pronunciation of unstressed syllables, which tend to undergo reduction in English (Skarnitzl & Rumlová, 2019). The lack of vowel reduction in the speech of Czech English speakers is clarified later. Unlike English, Czech stress has a delimitative function (Skarnitzl & Rumlová, 2019), and the rules for stress placement are simpler and easier to understand.

Lastly, the third criterion deals with the vowel quantity in a stressed syllable. In English, we distinguish between strong and weak syllables. A strong syllable usually consists of a long vowel and a weak syllable contains one short vowel (see chapter 1.1) (Ashby &

Maidment, 2005). On the contrary, in Czech, short and long vowels and even diphthongs can occur in any syllable, stressed or unstressed. Additionally, no vowel reduction occurs in Czech, while in English schwa is quite common in unstressed syllables (Skarnitzl et al., 2016).

Moreover, in Czech, we only identify whether a syllable is stressed or unstressed. However, this distinction is not sufficient for English syllables where, in some words, we also need to distinguish between primary and secondary stress (Skarnitzl et al., 2016). Among the marks of prominence is also the fundamental frequency, which is higher in stressed syllables (Eriksson & Heldner, 2015). As analysed by Palková and Volín in their 2003 study, when it comes to Czech the fundamental frequency is often higher in the second syllable rather than in the initial stressed one. This was also proved by Weingartová et al. (2014) where a group of beginners tended to prolong the unstressed second syllable. This further confirms the claim made by Janota and Palková (1974) about the nature of duration in Czech word stress, which does not function as one of the marks of prominence, in contrast to English.

1.4.2 Potential problems of Czech speakers related to word stress

Having compared the stress systems of Czech and English we can now focus on the anticipated problems that Czech speakers of English may face when it comes to word stress. The difference in stress patterns can pose significant challenges for Czech speakers when learning English and Czech speakers may struggle to accurately identify and produce the correct stress patterns in English words.

There are two general difficulties regarding word stress and thus lack of prominence contrast and stress misplacement. We will look at the lack of prominence and subsequent lack of vowel reduction first.

One of the most significant challenges for Czech speakers is the pronunciation of sounds. Czech has a one-to-one correspondence between letters and sounds, while English has many irregularities. According to Skarnitzl and Rumlová (2019), one of the main aspects of learning the stress patterns of English is “mastering the quality of the unstressed syllables” (p. 113). This leads us to the fact that there is no vowel reduction in Czech and word stress is not dependant on the quality and the quantity of a vowel (Skarnitzl, 2018).

The lack of prominence contrast in the speech of Czech English speakers is largely due to the lack of vowel reduction. While schwa does not occur in Czech, it is very frequent in English (Poesová, 2015), which poses problems for Czech English speakers. Schwa helps stressed syllables to stand out and "create prominence contrasts crucial for smoother word recognition" (Poesová, 2015, p.32). On the contrary, there is no such vowel in Czech which would help the distinction between stressed and unstressed syllables. As studied by Volín, Weingartová & Skarnitzl (2013) the spectral properties of schwa were more prominent in the speech of Czech speakers as compared to those schwas pronounced by native British speakers, proving that Czech speakers struggle with vowel reduction. In other words, Czech speakers lacked the ability to reduce vowels properly and instead produced schwa with a more full-vowel quality than native speakers would. All of this gives basis to the assumption that Czech speakers of English tend to equalise vowels in stressed and unstressed positions. They may therefore struggle with the production of schwa in connected speech.

Another factor contributing to the lack of prominence might be the duration. Duration in Czech plays no role in the identification of stressed syllables. However, in English, this is one of the prominence factors. In a study conducted by Skarnitzl and Eriksson (2017), it was proved that the stressed vowel is shorter than the other vowels in the speech of Czech speakers. Consequently, Czech English speakers may not distinguish sufficiently between long and short vowels in connected speech, as it is not as important in Czech, giving rise to L1 interference while mispronouncing words and subsequently misplacing word stress.

One of the most anticipated problems regarding stress placement is the fact that the nature of stress is different for English and Czech. Since Czech has stress fixed on the first syllable and English does not, it can be assumed that Czech English speakers are likely to place stress on the first syllable of words, more so even in English words with Czech counterparts. Misplaced stress can make a word unrecognisable or increase the difficulty of understanding the speaker's message.

1.4.3 Current research in Czech English regarding word stress

There are many studies and research focusing on L1 influence in the speech of Czech speakers of English.

Volín (2005) proved that Czech English speakers "produced all the vowels of roughly identical length" (p.285) confirming that there is a lack of prominence in the speech of Czech English speakers. Moreover, this accords with the fact that duration does not affect stressed syllables in Czech. He also found that in four-syllable words, the second and fourth syllables, which are not stressed, exceed the length of the stressed syllable.

Furthermore, Weingartová, Poesová, and Volín focused on prominence contrast in Czech English in their 2014 study. The authors note that the nature of Czech word stress can lead to difficulties for Czech learners of English, as English has a more complex system of word stress placement. The research was conducted on a group of Czech beginners, Czech intermediates, and native speakers. The results reveal that the biggest difference between beginners and intermediates was in duration. This suggests clear relation between the temporal contrast and the level of the speaker's English. The spectral slope results also indicate that vowels in unstressed syllables are pronounced without sufficient vowel reduction. Moreover, they found that learners who struggled with English word stress tended to have lower overall proficiency in the language.

Additionally, Volín, Poesová, and Weingartová confirmed in their 2015 study that pitch in Czech is not used in the same range as in English. Therefore, Czech English speakers could feel reluctant to raise the pitch of stressed syllables leading to a lack of prominence and, consequently, stress misplacement.

Worth mentioning is also research conducted by Sokolová (2009) which focuses on word stress in the speech of Czech teachers of English. The results indicate apparent L1 interference. There is a lack of reduction in vowels which leads to the lack of prominence contrasts. Moreover, the results reveal the tendency to stress words initially.

2 Practical part

The practical part of this thesis aims to provide an analysis of the influence of Czech as a native language on word stress placement in the speech of Czech adult speakers of English. The purpose of this research is to test a hypothesis related to L1 influence on stress placement and to present the results obtained through an analysis of audio recordings created by Czech adult speakers of English. The material and respondents used in this study are introduced in chapters 2.2 and 2.3, respectively, followed by information on data collection and analysis in chapter 2.4. Finally, the results of the analysis and discussion are presented in chapters 2.5 and 3 to draw attention to the challenges faced by second language learners of English in acquiring correct stress placement and contributing to a better understanding of the impact of L1 on word stress placement in English.

2.1 Hypothesis

The objective of this study is to find out whether words with Czech equivalents make it more difficult for Czech English speakers to determine stressed syllables. Based on the previous research concerning Czech English speakers (Weingartová et al., 2014; Sokolová, 2009), the current hypothesis was formulated:

Czech adult speakers of English are more likely to misplace stress in the words that have Czech equivalents.

2.2 Material

The text serves as the speech sample and is crucial to the study. The thesis author created the text. The goal was to create a text which is coherent and meaningful. In order to achieve this there are sentences which do not contain the target words. It was crucial that no stress shift occurs in the phrases containing the target words. The target words vary in the number of syllables and the placement of stress. Below, the sample text with the target words underlined can be found.

I wanted to get out of my routine and go somewhere exotic for vacation. My boyfriend, who is a mathematician, decided to join me and we went on a three-week trip to Brazil and Argentina. I used to have a fear of flying that was tremendous but I calmed myself usually by watching a cartoon.

We were very indecisive about the room in Buenos Aires. We ended up booking a comfortable one. When we got to our hotel, I found out that I had forgotten my shampoo and foundation for makeup. Therefore, we decided to go shopping. I must say, I was taken aback by the sincerity and hospitality of all the people there. The personnel were very attentive to our needs and helpful with everything. We tried a lot of delicious food during our stay and also drank yerba which is characteristic for the country. We were also able to acquire tickets to see a football match with Messi playing. I loved taking pictures with my camera there and that's how I discovered my passion for photography.

Our next stop was Rio de Janeiro. There we had an accommodation with a small kitchenette. Many families were staying there as well and the parents were irresponsible. We also had a big misunderstanding with one of the families. I accidentally knocked over one kid when he was running around and they thought I attacked him. The conversation we had after that was very long because the parents were very upset.

One day we were walking through the streets and we saw people gathering at one spot. Out of curiosity we came closer and saw that there was also the police. We asked what was going on but they said they couldn't disclose such information. We got back to our room and wanted to relax with a magazine and a cigarette. We were also told about the advantages of renting a car and going on road trips. We did that but I was still quite inexperienced in driving so it was interesting. My favourite night there was when we went to see a stand-up comedian perform. I laughed uncontrollably every few minutes. Unfortunately, during our last weekend in South America I caught some bug and when we got back home I had to have an operation.

I must say, the trip exceeded my expectations. During the three weeks, me and my boyfriend did not have one disagreement which was a miracle. During our stay in Buenos Aires, there were also beautification projects for renovation of the city centre underway so I would love to see it now.

Sadly, today there was a calamity near Rio. There was a devastating earthquake and I was shocked to hear about this catastrophe. I am now thinking about flying there as a volunteer to help. I have already found an association helping with the process and I will have to fill out a questionnaire.

The text can at certain parts seem too contrived. This is because the target words were selected first, and the sample text was created accordingly to contain these words and also to be fairly coherent. The text was created to ensure that the target words are produced in context and not in isolation. Nevertheless, it is crucial to keep in mind that it is not a spontaneous speech.

The text included forty-eight English words that carry stress on other than the first syllable and can therefore create problems concerning stress placement for Czech speakers of English. Twenty-four of those forty-eight words have equivalents or near equivalents in

the Czech language making it more difficult to place word stress correctly. Below, the target words are grouped according to their number of syllables and stress placement. Additionally, there is the correct pronunciation with primary and secondary stresses. British pronunciation served as a point of reference.

Table 1: List of two-syllable words used in the text for recording.

Two-syllable words			
Words with Czech equivalent	**Correct pronunciation**	**Words with no equivalent**	**Correct pronunciation**
police	/pəˈliːs/	perform	/pəˈfɔːm/
weekend	/ˌwiːkˈend/	upset	/ʌpˈset/
Brazil	/brəˈzɪl/	today	/təˈdeɪ/
hotel	/həʊˈtel/	disclose	/dɪˈskləʊz/
shampoo	/ʃæmˈpuː/	acquire	/əˈkwaɪəʳ/
routine	/ruːˈtiːn/	cartoon	/kɑːˈtuːn/

Table 2: List of three-syllable words used in the text for recording.

Three-syllable words			
Words with Czech equivalent	**Correct pronunciation**	**Words with no equivalent**	**Correct pronunciation**
vacation	/veɪˈkeɪʃən/	attentive	/əˈtentɪv/
delicious	/dɪˈlɪʃəs/	exceeded	/ɪkˈsiːdɪd/
exotic	/ɪgˈzɒtɪk/	foundation	/faʊnˈdeɪʃən/
personnel	/ˌpɜːsənˈel/	volunteer	/ˌvɒlənˈtɪəʳ/
cigarette	/ˌsɪgərˈet/	questionnaire	/ˌkwestʃəˈneəʳ/
magazine	/ˌmægəˈziːn/	kitchenette	/ˌkɪtʃənˈet/

Table 3: List of four-syllable words used in the text for recording.

Four-syllable words			
Words with Czech equivalent	**Correct pronunciation**	**Words with no equivalent**	**Correct pronunciation**
photography	/fəˈtɒgrəfi/	sincerity	/sɪnˈserəti/
calamity	/kəˈlæməti/	tremendous	/trɪˈmendəs/
catastrophe	/kəˈtæstrəfi/	advantages	/ədˈvɑːntɪdʒɪz/
Argentina	/ˌɑːdʒənˈtiːnə/	indecisive	/ˌɪndɪˈsaɪsɪv/
conversation	/ˌkɒnvəˈseɪʃən/	disagreement	/ˌdɪsəˈgriːmənt/
operation	/ˌɒpərˈeɪʃən/	expectations	/ˌekspekˈteɪʃənz/

Table 4: List of five-syllable words used in the text for recording.

Five-syllable words			
Words with Czech equivalents	**Correct pronunciation**	**Words with no equivalents**	**Correct pronunciation**
hospitality	/ˌhɒspɪˈtæləti/	accidentally	/ˌæksɪˈdentəli/
uncontrollably	/ˌʌnkənˈtrəʊləbli/	inexperienced	/ˌɪnɪkˈspɪərɪənst/
curiosity	/ˌkjʊərɪˈɒsəti/	irresponsible	/ˌɪrɪˈspɒnsəbəl/
mathematician	/ˌmæθəməˈtɪʃən/	misunderstanding	/ˌmɪsʌndəˈstændɪŋ/
characteristic	/ˌkærəktəˈrɪstɪk/	beautification	/ˌbjuːtɪfɪˈkeɪʃən/
association	/əˌsəʊsɪˈeɪʃən/	accommodation	/əˌkɒməˈdeɪʃən/

Three-syllable, four-syllable and five-syllable words were further divided into groups according to the placement of stress. Among the three-syllable words, there are words carrying the stress on the second syllable and on the third syllable. Words with four syllables from the list carry stress either on the second syllable or the third syllable. Additionally, among the five-syllable words, there are words with either the third syllable stressed or the fourth syllable stressed.

Twenty-four of the target words have an equivalent or near equivalent in the Czech language. In *Table 5* the words with their equivalents are presented.

Table 5: List of words used in the text for recording and their equivalents or near equivalents in Czech.

English word	Czech equivalent or near equivalent
police	policie
weekend	víkend
Brazil	Brazílie
hotel	hotel
shampoo	šampón
routine	rutina
vacation	vakace
delicious	delikátní
exotic	exotický
personnel	personál
cigarette	cigareta
magazine	magazín
photography	fotografie
calamity	kalamita
catastrophe	katastrofa
Argentina	Argentina
conversation	konverzace
operation	operace
hospitality	pohostinnost
uncontrollably	nekontrolovatelně
curiosity	kuriozita
mathematician	matematik
characteristic	charakteristický
association	asociace

2.3 Respondents

Altogether fifty respondents took part in the research. The research respondents were subdivided into two groups according to their language competence. In the first group, there were twenty-five Czech university students with English as their major at Charles University. In the second group, there were twenty-five Czech English speakers who had never studied English at the university level. All the information about the respondents was gathered during a short interview before recording the sample text by each respondent. The respondents were asked several questions:

2. How old are you?
3. How would you describe your gender?
4. Which English level are you at?
5. Do you have a university degree in English or are you currently studying English?
6. Have you ever learnt about English word stress placement?

All respondents from the first group[1] were third-year students at the Charles University. Specifically, students of the Department of English Language and Literature at the Faculty of Education, meaning that their major was English. Out of the respondents, 80% identified as women while 20% identified as men. The average age of respondents from G1 was 22 years. As defined by the Common European Framework of Reference for Languages (CEFR), the achieved level of English by G1 respondents was advanced (C1). This level was assessed by the respondents themselves, as well as elicited from their success in university courses where a C1 level was required. Furthermore, the respondents claimed that they use English daily.

The second group[2] of respondents consists of Czech English speakers that were not properly instructed in English phonetics. This group is quite diverse. Among the twenty-five people in G2, there were eight students from Czech Technical University in Prague, three students from Charles University majoring in German or Czech, and one student from Prague University of Economics and Business. Furthermore, three people from this group work in IT and the remaining ten people work in bakery production. 56% identified as women and 44% as men. The average age of respondents from G2 was 33 years. 24% of the respondents self-assessed their level of English as B1+, 56% of the respondents self-assessed their level of English as B2 and 20% of the respondents self-assessed their level of English as C1 as defined by CEFR.

The reason for choosing these two groups is to analyse L1 influence on stress placement among speakers with varying levels of English. We can assume that since speakers from G1 had some previous theoretical knowledge about English stress placement and their overall proficiency is generally higher, they are less likely to misplace stress.

[1] The first group of respondents is from this point on in the thesis referred to as *G1*.
[2] The second group of respondent sis from this point on the thesis referred to as *G2*.

2.4 Data collection and analysis

The respondents did not know which words from the sample text would later be analysed. Some of the speakers were met in person for the recording. Most of the participants were instructed to record themselves reading the sample text, using any recording device. The recordings were sent to the author of the thesis via email. The respondents were given written instructions about the process of recording.

Firstly, the respondents were asked the questions in order to gather the personal data relevant to the study (see chapter 2.3). Secondly, they were instructed to read the sample text. The participants had as much time as they needed to read the sample text either silently or aloud. To guarantee fluency while reading the text, respondents were instructed to read the entire sentence again if they stumbled. Finally, the audio recording began. The respondents were recorded while reading the text aloud.

The author conducted a perceptual analysis of the recordings. Upon listening to the recordings multiple times, the stressed syllable in every target word was identified. The target objective was to determine whether the stressed syllable was identified correctly by the speaker. Additionally, if the stress placement was incorrect, it was paramount to identify whether the stressed syllable was the first one or not. If the first syllable of a target word is stressed it can be assumed that this is an indication of negative L1 transfer. Based on the analysis, a list of words in which stress was placed incorrectly was created.

2.5 Results

This section provides the outcome of the perceptual analysis of the recordings. From the list of target words, those words in which the respondents placed stress incorrectly were chosen and analysed in detail.

The results show, quite surprisingly, that many of the target words were pronounced with the correct stress placement by all speakers. Those words are *police, weekend, Brazil, shampoo, routine, perform, upset, today, disclose, acquire, vacation, delicious, exotic, cigarette, exceeded, foundation, questionnaire, kitchenette, conversation, operation, sincerity, tremendous, advantages, indecisive, disagreement, expectations, uncontrollably, curiosity, association, inexperienced, beautification, accommodation*. The high number of correctly placed stresses might be due to the analysis only being

perceptual and not instrumental. No word was pronounced with incorrect stress placement by all speakers. Below, the overall errors are indicated. Words with no error according to the analysis of the recordings are not present in the table.

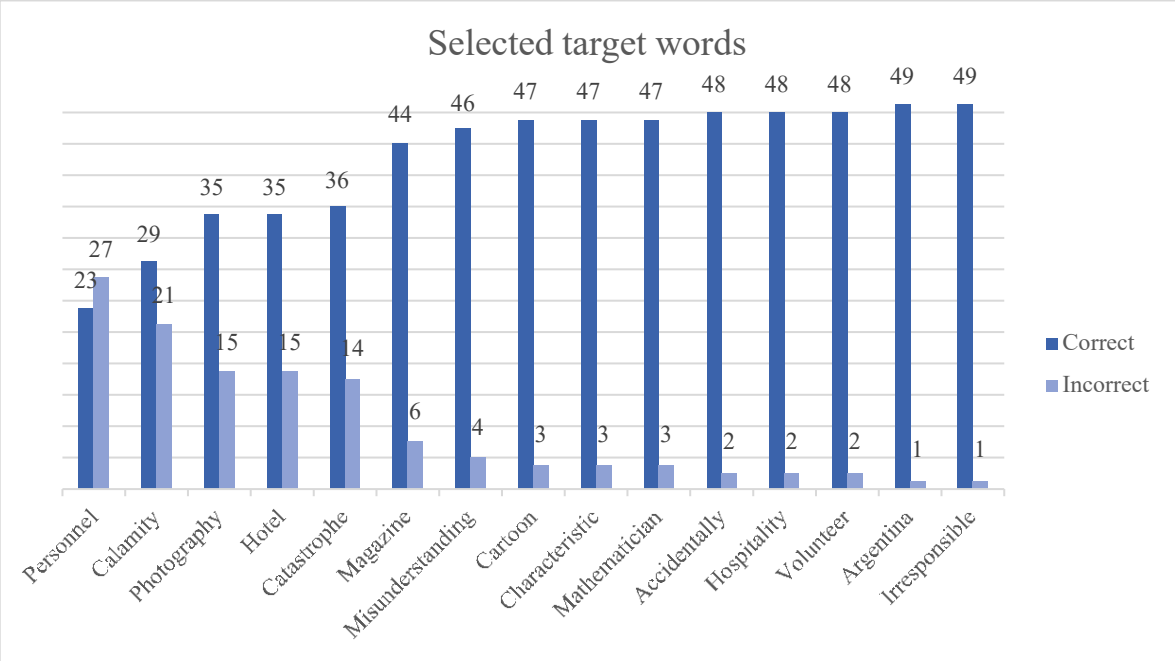

Figure 1: List of words with the number of correct or incorrect stress placements.

The number of incorrect word stress placements made by each speaker varied a lot. In the following graph, the number of overall mistakes made by speakers from G1 and G2 is shown.

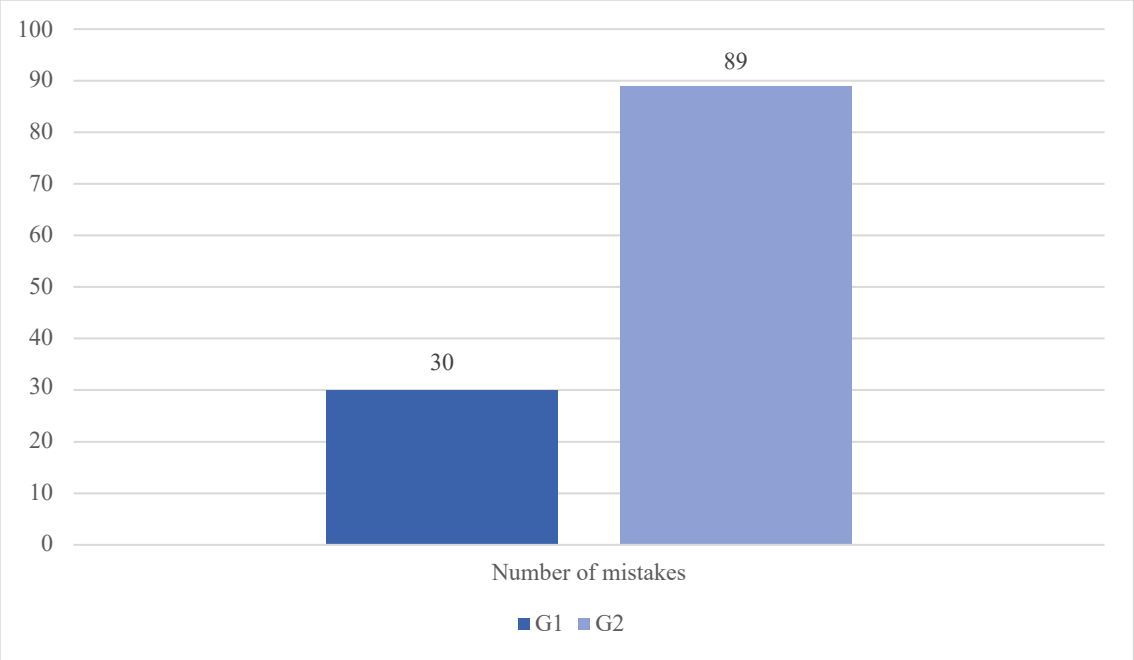

Figure 2: Number of mistakes made by each group of speakers.

According to *Figure 2*, it is apparent that the majority of mistakes were made by speakers from G2.

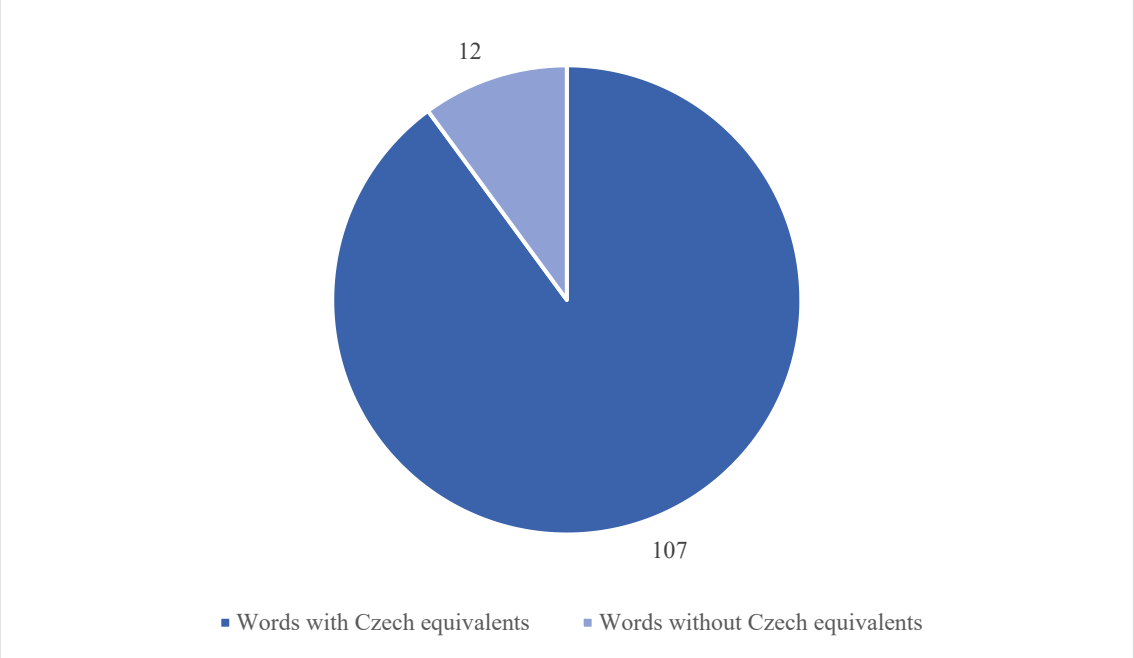

Figure 3: Distribution of incorrect stress placement occurrence between the target words with Czech equivalents and words without Czech equivalents.

Figure 3 illustrates that there is a higher occurrence of incorrect stress placement in words with Czech equivalents. Namely, the words *personnel, calamity, photography,*

catastrophe, hotel, magazine, characteristic, mathematician and *hospitality* proved to be the most difficult for the speakers concerning stress placement. Additionally, there was also one speaker from G2 who incorrectly placed stress in *Argentina*.

On the contrary, words without Czech equivalents were usually without a mistake. Among the words without Czech equivalents in which there were mistakes concerning stress placement are *misunderstanding, cartoon, accidentally, volunteer* and *irresponsible*. The word *irresponsible* was mispronounced by only one speaker from G1 who placed the stress on the first syllable.

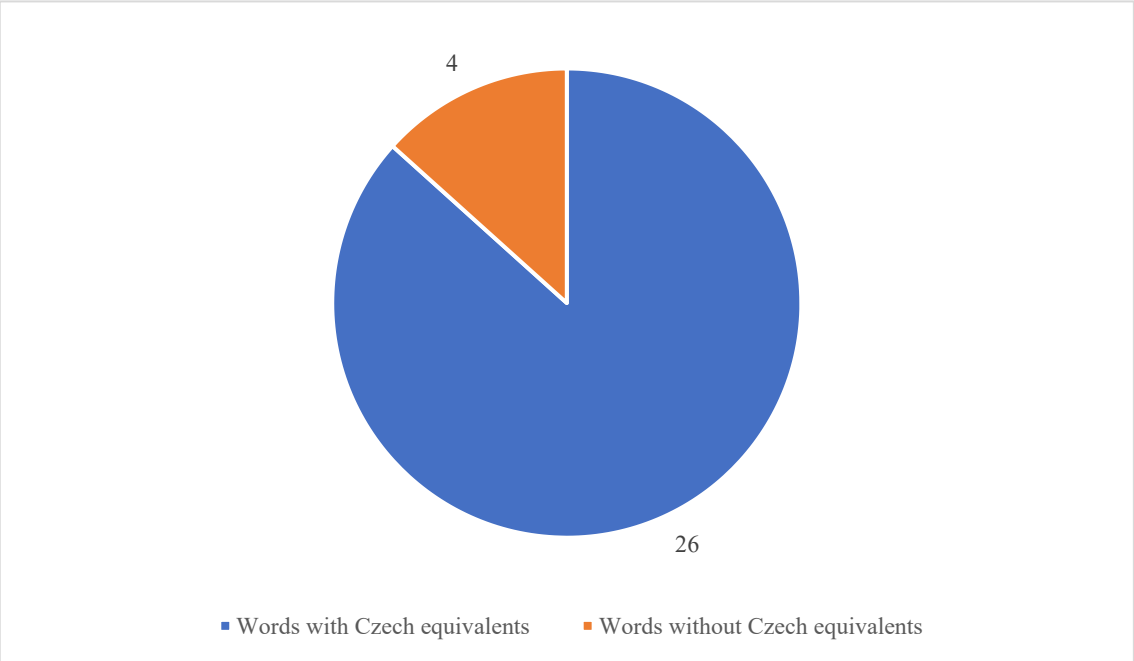

Figure 4: Distribution of incorrect stress placement occurrence between the target words with Czech equivalents and words without Czech equivalents among G1 speakers.

In *Figure 4* we can see the distribution of mistakes regarding the target words among G1. The majority of stress misplacements, specifically twenty-six, occurred in words with Czech equivalents as was assumed. In words without Czech counterparts, only four

mistakes were made by speakers of this group. These words were *accidentally*, *irresponsible*, *cartoon* and *misunderstanding*.

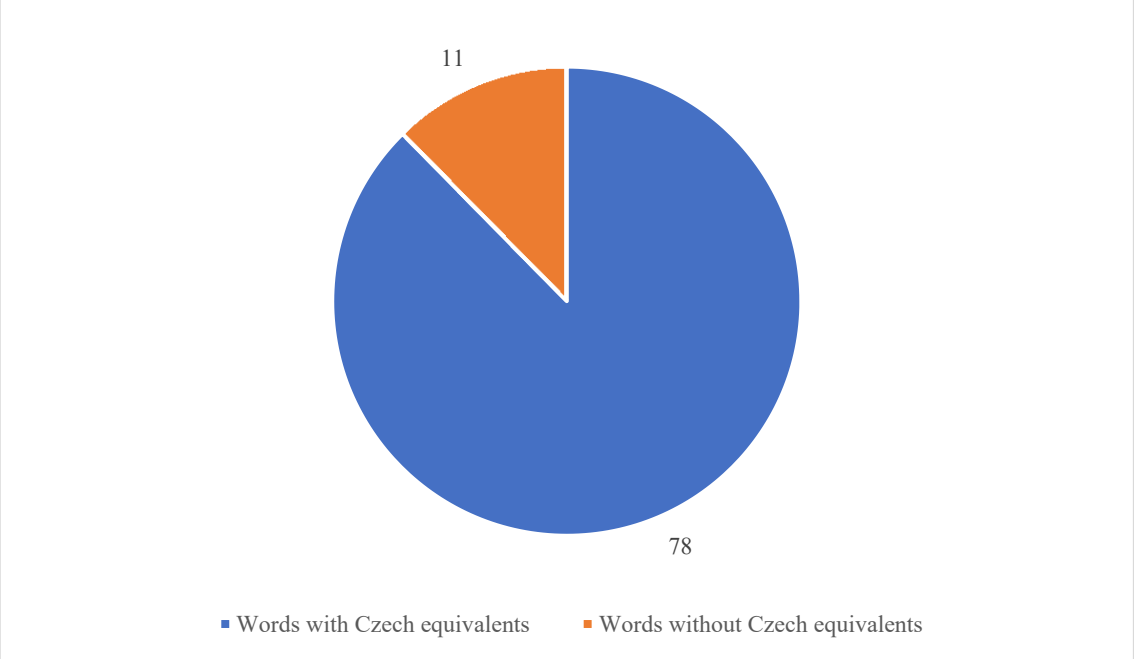

Figure 5: Distribution of incorrect stress placement occurrence between the target words with Czech equivalents and words without Czech equivalents among G2 speakers.

Figure 5 illustrates the number of incorrect stress placements made by speakers of G2. Similarly to the previous figure, we can see that the error level in words with Czech equivalents is much higher than in words that do not have Czech equivalents. We will now look at the results for selected target words in more detail. The words in which incorrect stress placement was detected more than twice are further analysed in this section.

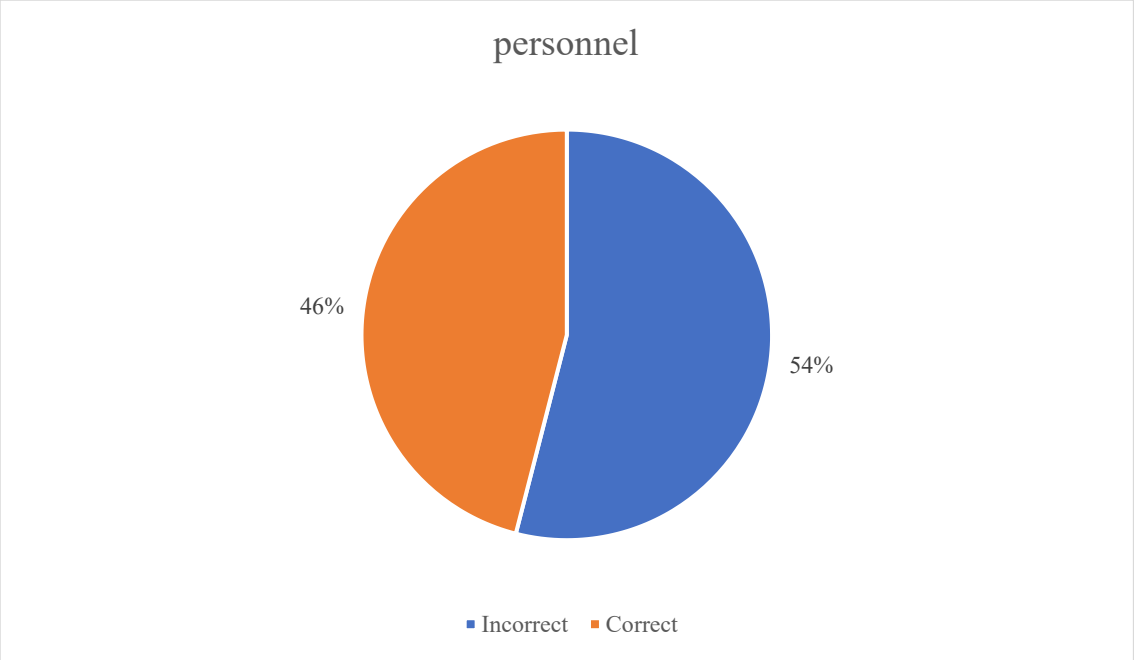

Figure 6: Correct and incorrect stress placement in "personnel" shown in percentage.

As is obvious from *Figure 6*, the majority of speakers stressed the wrong syllable in *personnel*. According to *Table 2*, the third syllable of the word *personnel* is supposed to be stressed. *Personnel* is a C1 level word which, presumably, many Czech speakers of English confuse with its Czech equivalent *personál*, leading to the incorrect stress placement on the first syllable. Additionally, the respondents might get confused due to the long mid-central vowel /ɜː/ in the first syllable. They tended to focus on this vowel more than the front /e/ in the third syllable, which they produced with a shorter duration. However, probably because both the initial and the last syllable are strong, it was at times difficult to identify the stressed syllable in the respondents' recordings.

In this word, word stress was placed incorrectly by the highest number of respondents as opposed to the other target words. The number of speakers from G1 who made a mistake here is seven. The majority of mistakes were made, as expected, by G2. Specifically, twenty speakers from G2 placed stress on the final syllable.

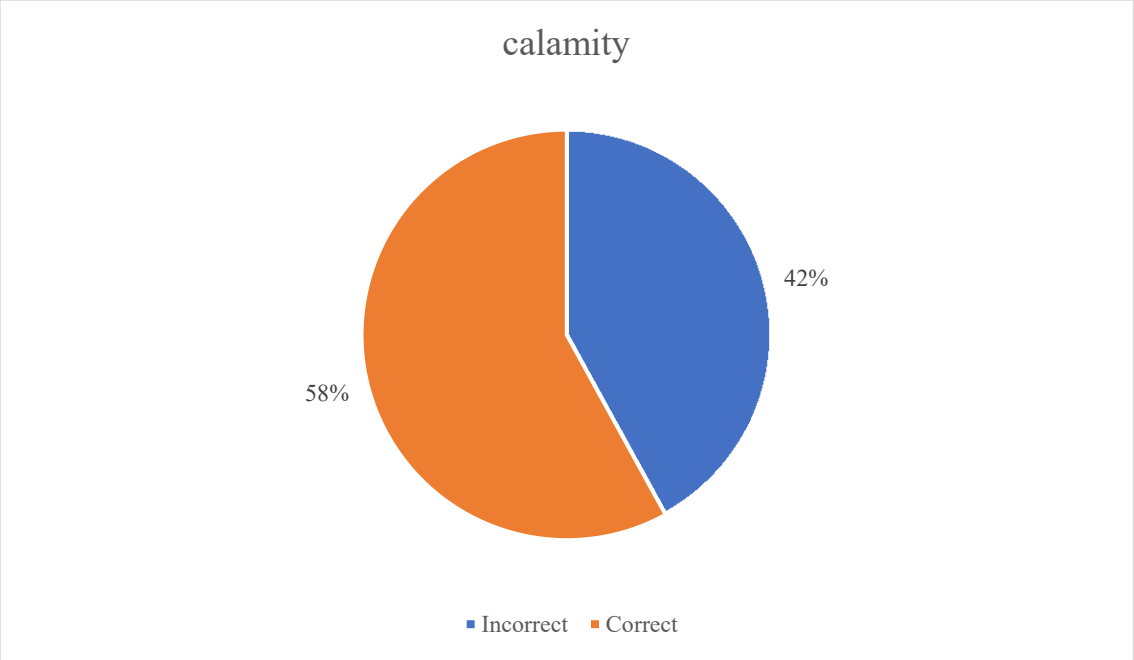

Figure 7: Correct and incorrect stress placement in "calamity" shown in percentage.

The misplacement of stress in *calamity* is also high. This can be again due to insufficient knowledge of English stress patterns. The first syllable contains a schwa, meaning it can never be stressed, which especially the respondents from G2 may not know. Moreover, due to the fact that *calamity* is a word with a Czech equivalent, it is possible that some respondents were influenced by Czech *kalamita* in placing the stress on the first syllable when, according to *Table 3*, the second syllable carries the stress. This indicates that unsatisfactory vowel reduction in the first syllable influenced by the Czech vowel /a/ from the Czech equivalent occurs. Subsequently, the second vowel was reduced to schwa making the first syllable more prominent.

The number of respondents from G1 who stressed initially here is six. More than twice the number of mistakes made in this word was made by G2 speakers – fifteen respondents made a mistake here.

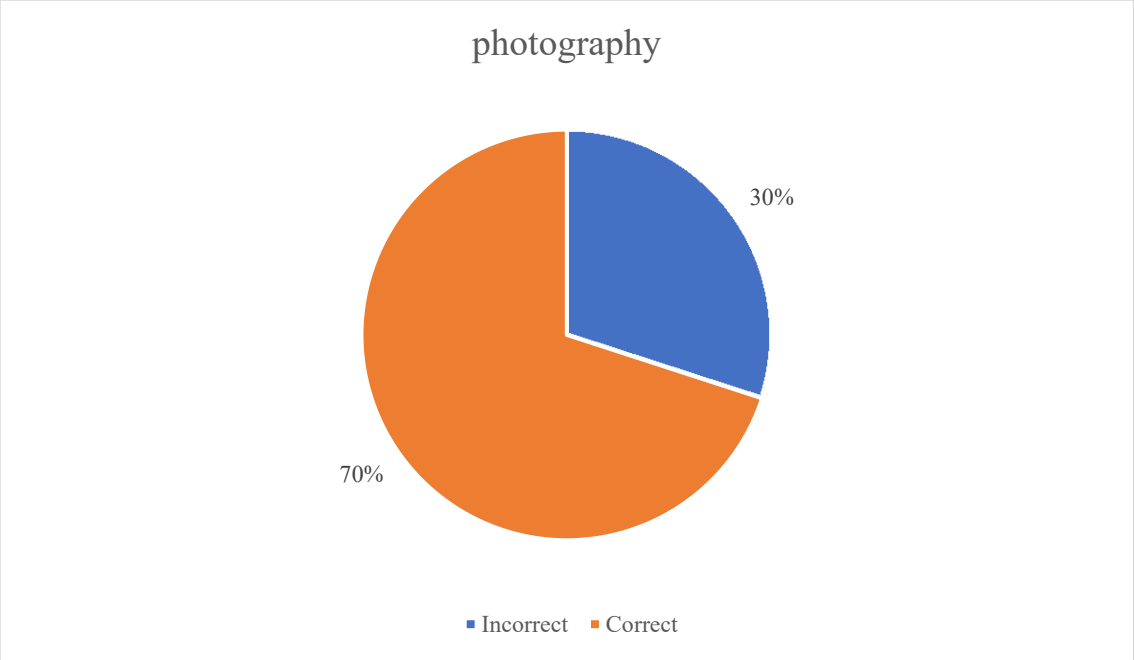

Figure 8: Correct and incorrect stress placement in "photography" shown in percentage.

Quite significant error rates are detected in the word *photography*. We are dealing with another word which has a Czech equivalent – *fotografie*. It is quite apparent that L1 influence is in effect here. *Photography* is an A2-level word, and its Czech equivalent is a very common word used almost on daily basis. We can also take into account the short Czech version *fotka*, which stresses the initial syllable, while in the English word *photography*, the first syllable contains schwa. This, again, implies insufficient vowel reduction. Those speakers that placed stress initially mispronounced the vowel in the first syllable as /əʊ/ and then reduced the vowel in the following syllable. We may assume that these speakers were influenced by the pronunciation of the verb *to photograph*, which is indeed stressed initially and contains /əʊ/ in the stressed syllable. However, when we add the suffix *-graphy* the stress must be shifted (chapter 1.2.5.1).

The number of respondents who made a mistake here is, surprisingly, almost identical. The number of G1 speakers who placed the stress on the first syllable is seven, while from the second group, eight people made this mistake. Upon examining the sentence in which this word occurs in the sample text, it might be possible that respondents were influenced by the preceding preposition *for*, which occurs in its weak form. Therefore, it is possible that in order to compensate for the short schwa, speakers tend to stress the next syllable.

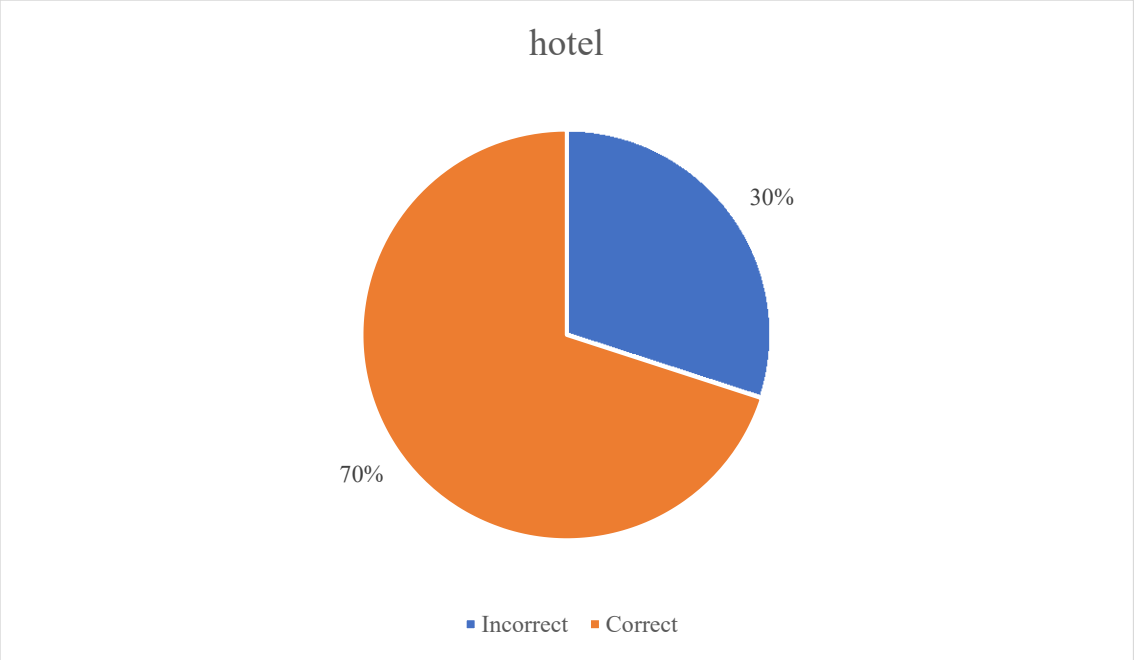

Figure 9: Correct and incorrect stress placement in "hotel" shown in percentage.

The results for *hotel* also display L1 interference, however, the expectation for error level in this word was higher. Surprisingly, only fifteen speakers placed the stress incorrectly. These speakers made the mistake of replacing the vowel /e/ in the second syllable with schwa, thus depriving the syllable of the ability to be stressed. This is a very common mistake among Czech speakers of English, partly perhaps because it is unusual for a noun to be stressed on the second syllable. The word *hotel* carries stress on the second syllable because of the suffix *-el* which attracts primary stress (chapter 1.2.5.1). The native tongue influence did not prove to be as strong here as was expected due to the Czech equivalent which is stressed on the first syllable and is used quite commonly. However, it still shows significant interference in thirty percent of the recordings. Among speakers from G1, two respondents made the mistake, while in the second group, it was thirteen respondents. This implies that those speakers who study English at the university level were familiar with the current stress pattern.

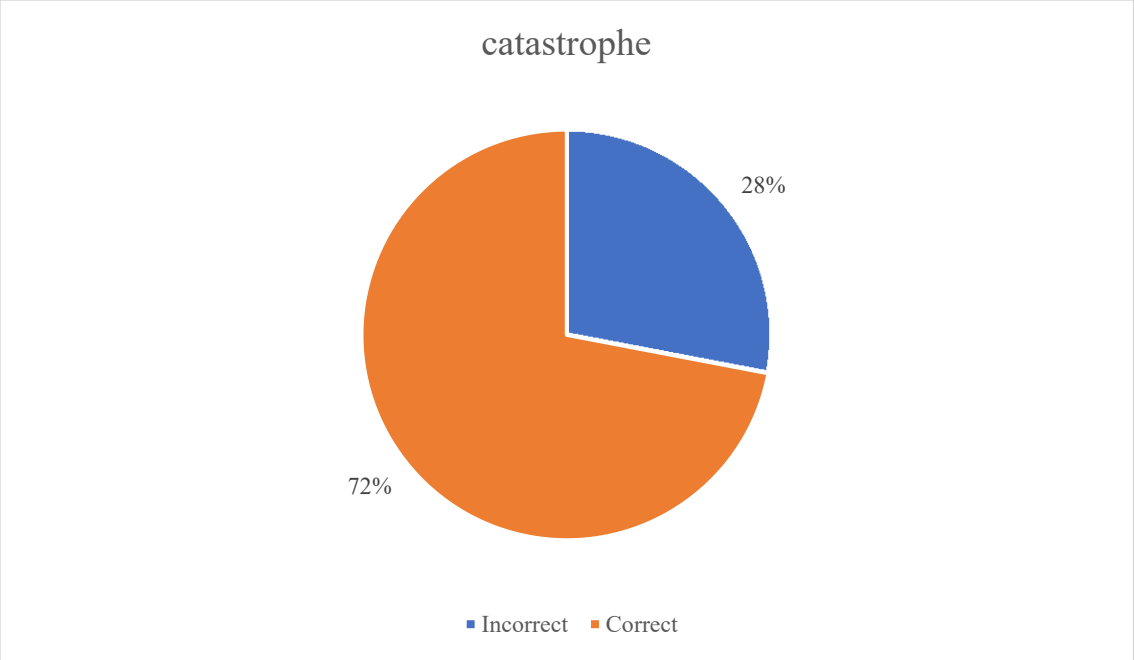

Figure 10: Correct and incorrect stress placement in "catastrophe" shown in percentage.

We are once again looking at a word with a Czech equivalent – *katastrofa*. However, there are more factors to consider. Unlike all the other words where the stressed syllable is either the initial one as influenced by L1 or the correct one according to *Table 3*, in *catastrophe*, we can observe that each syllable was stressed by at least two speakers. *Catastrophe* is a C2-level word which is stressed on the second syllable. Two speakers placed the stress initially and two speakers finally. We can detect the lack of vowel reduction in the first syllable and therefore the substitution of schwa by the vowel /a/ or /æ/ which was then pronounced with the most prominence, leading to vowel reduction in the second syllable. The tendency to place stress on the third syllable was quite prevalent. Ten respondents placed the stress on the third syllable, while mispronouncing the vowel and the cause of that was, again, a lack of vowel reduction. In the third syllable, schwa occurs. However, ten speakers made a mistake and instead of schwa the vowel was realised as a diphthong /əʊ/ causing the speakers to pronounce the syllable with more prominence The speakers did this while shortening the vowel in the second syllable and mispronouncing it as a schwa, thus making it impossible to carry stress. Similarly, in the case of the last syllable being stressed, the vowel was realised as /iː/ while all the preceding vowels were reduced. The stress was placed correctly by twenty-six respondents. It can be presumed that mispronunciation causes the speakers to place stress

on either the first, third, or fourth syllable. In the case of the first syllable being stressed, it is quite possibly due to L1 influence. There were fourteen mistakes made in this word, out of which only two were made by speakers from G1.

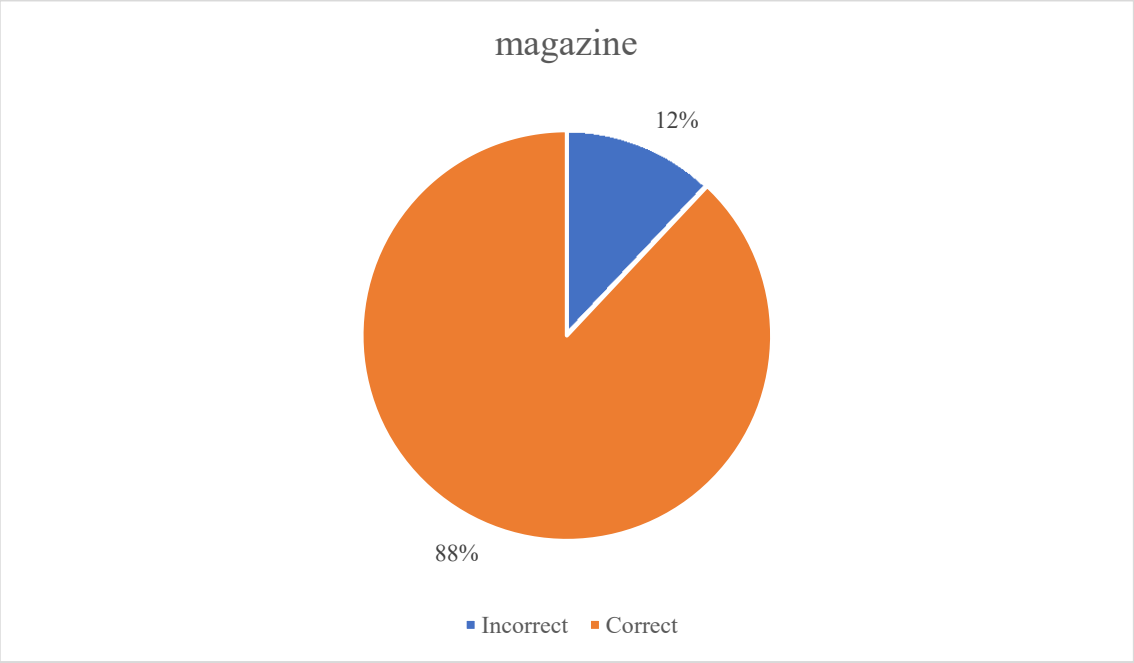

Figure 11: Correct and incorrect stress placement in "magazine" shown in percentage.

Similarly to *personnel*, *magazine* also contains two strong syllables, that is the initial one and the third one. This makes it more difficult for Czech speakers to identify the syllable that should be stressed. When deciding whether to stress the first or the third syllable, six speakers were, presumably, influenced by L1. Magazine has its equivalent in Czech which is indeed stressed on the first syllable. The number of respondents who made a mistake here is two from G1 and four from G2.

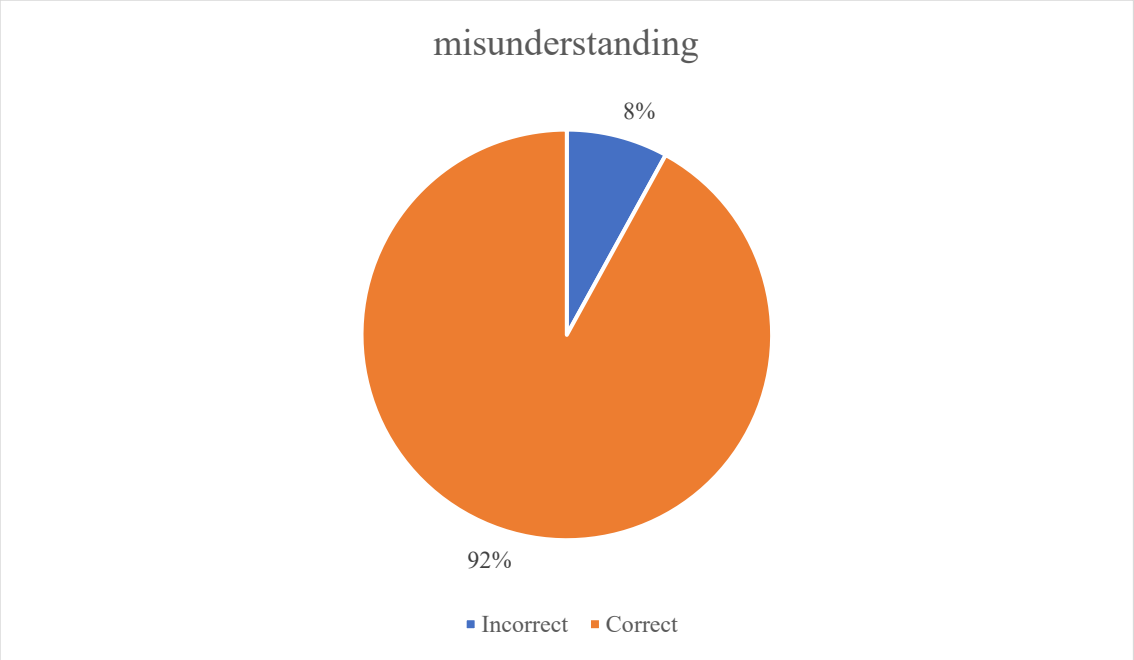

Figure 12: Correct and incorrect stress placement in "misunderstanding" shown in percentage.

We are looking now at the first word without a Czech equivalent in which stress was misplaced a few times. Four speakers placed the stress on the initial syllable, meaning the prefix *mis-*. This prefix always carries secondary stress as explained in chapter 1.2.5.2. This can be the reason as to why the speakers misplaced the stressed syllable. It can also be assumed that L1 influenced affected the stress placement as well. From the first group, only one person made this mistake, and from the second group three people.

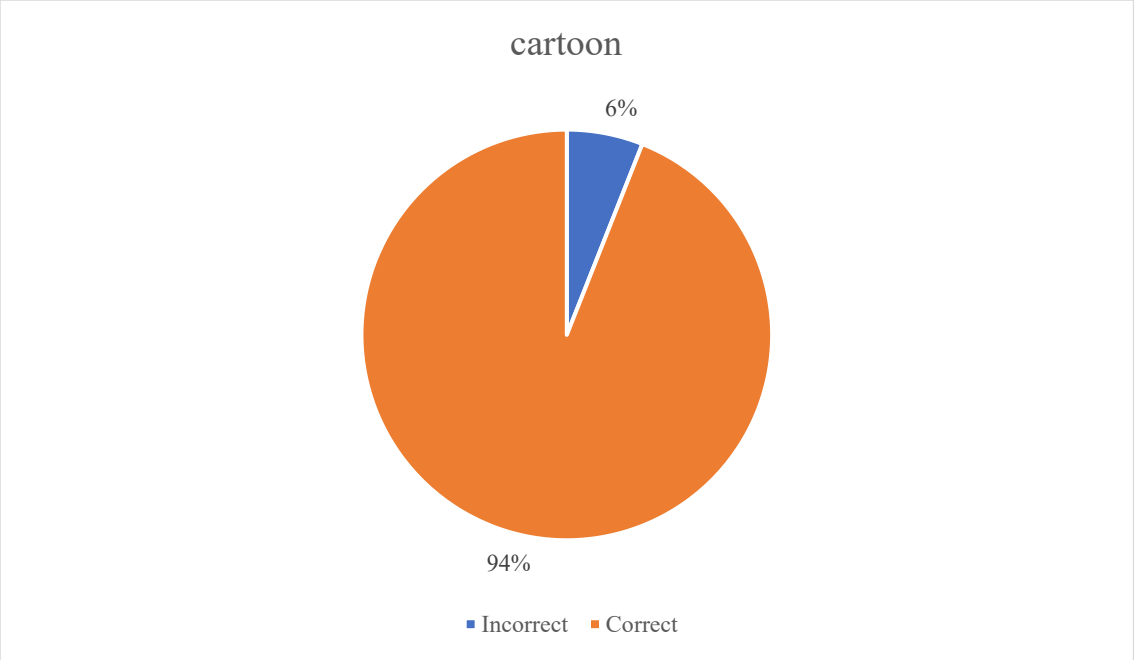

Figure 13: Correct and incorrect stress placement in "cartoon" shown in percentage.

Although the stress was placed correctly by the majority of speakers in *cartoon*, the results are still worth presenting. *Cartoon* is a word with stress on the second syllable, due to the suffix *-oon* which attracts primary stress (chapter 1.2.5.1). The initial stress was detected here in the recordings of three people, only one of those being from G1. These speakers were, most likely, influenced by the first syllable "car" which is also a word on its own. It is a one-syllable word carrying primary stress which, theoretically, influenced the speakers to place the stress incorrectly. Moreover, we can presume that the initial stress is the consequence of L1 influence, too.

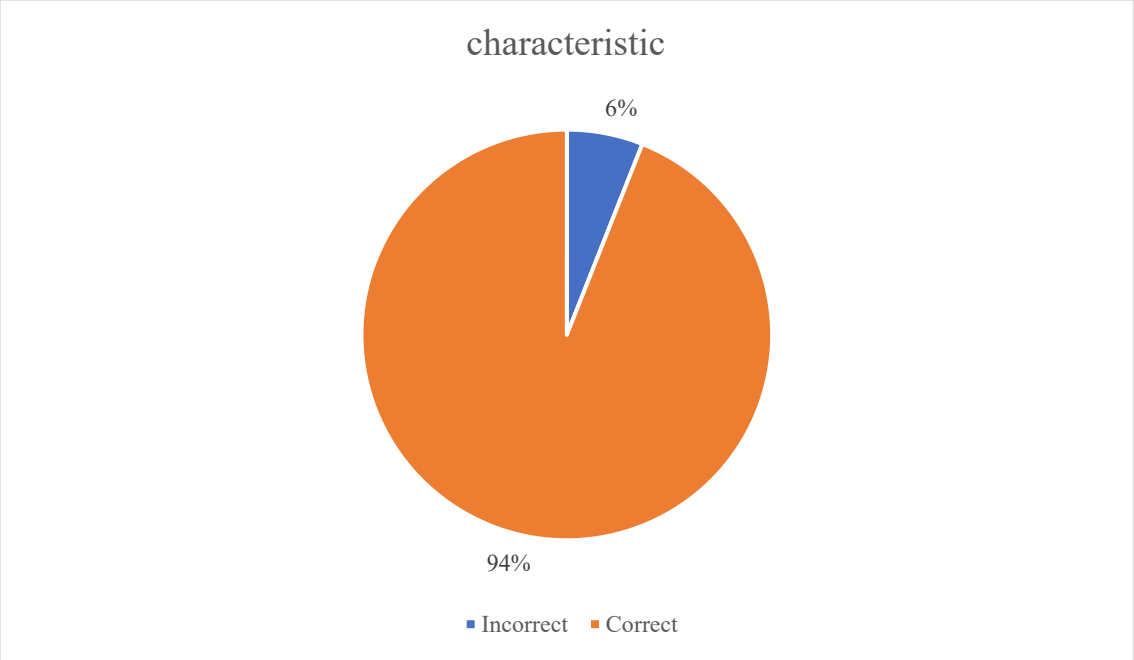

Figure 14: Correct and incorrect stress placement in "characteristic" shown in percentage.

The results for *characteristic*, again, give basis to the argument that L1 influenced the speakers. The correct stress placement here would be on the fourth syllable due to the suffix *-ic* (chapter 1.2.5.1). The first syllable is strong, which, as already mentioned in the results of previous target words, might confuse speakers without theoretical knowledge of English word stress. The initial syllable carries secondary stress, however, mainly speakers from G2 may struggle with differentiating between primary and secondary stress. Additionally, given that this word has its equivalent in Czech, L1 interference cannot be ruled out. Only three speakers made a mistake here, all of those being from G2.

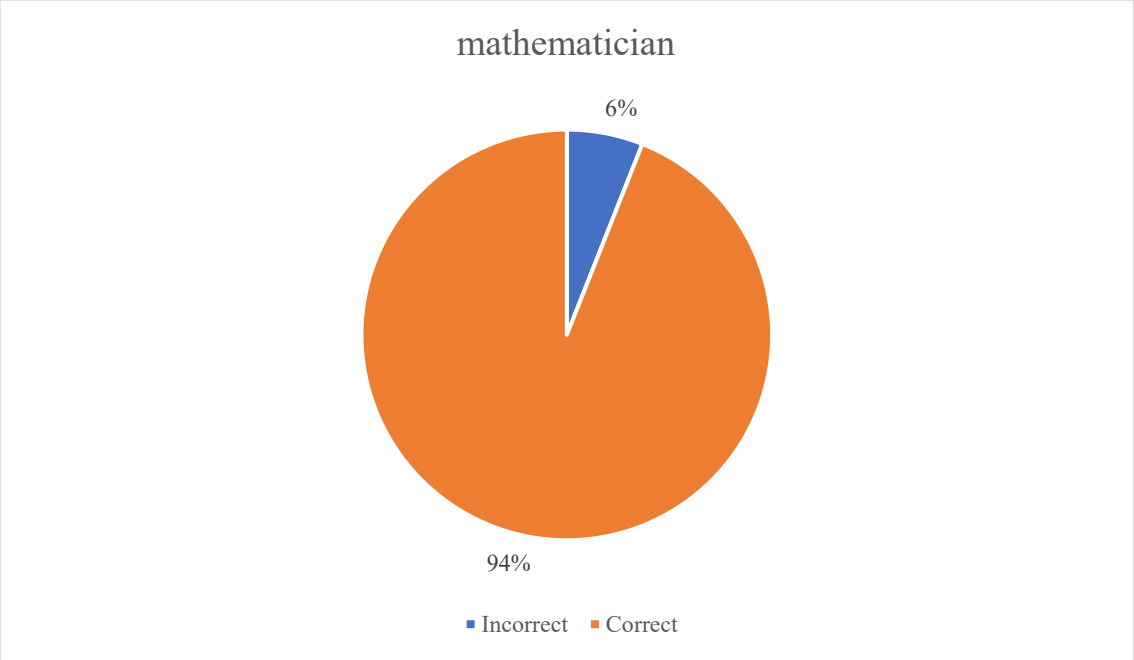

Figure 15: Correct and incorrect stress placement in "mathematician" shown in percentage.

Equally to *characteristic*, in *mathematician* three speakers placed the stress incorrectly. The three speakers were from G2 as well. The results indicate that the speakers were most likely influenced by Czech since they placed the stress initially instead of on the fourth syllable. The fact that the initial syllable is strong might be a factor contributing to the misplacement of stress. Czech speakers might be inclined to view the /æ/ in the first syllable as longer and therefore more prominent than the /ɪ/ in the fourth syllable. Additionally, the initial syllable carries secondary stress which may lead the speakers to place the stress there.

3 Discussion

In this section, the key findings will be summarised and interpreted. Furthermore, the significance of the findings will be explained and alternative explanations for the results will be contemplated. Moreover, possible limitations will be evaluated and implications for further research will be presented.

According to the results, the stress was misplaced by speakers in only five words without Czech equivalents and ten words with Czech equivalents (see *Figure 1*). The study found that the keyword *personnel* caused the most problems in the terms of word stress, with 54% of speakers making a mistake here. Moreover, the error level in words without Czech equivalent is much smaller than in the other group of words. In accordance with the research hypothesis, 90% of all incorrect stress placements occurred in words with Czech equivalents. Czech English speakers tended to place stress initially which corresponds with the results of Sokolová's (2009) research. Moreover, those speakers with English as their major had a much smaller error level. This confirms the findings of Weingartová et al.'s (2014) study, in which it was proved that speakers with a higher level of proficiency tend to produce stressed vowels with more prominence, especially regarding duration.

The thesis made several mentions of the research's limitations. First of all, the recordings made by the speakers lack spontaneity due to the specific sample text. Therefore, we do not have the results of natural and spontaneous speech and the reading led some of the speakers to a very monotone pitch and intonation which made it sometimes difficult to recognise the stressed syllable. Moreover, the analysis was non-instrumental and relied only on the perception of words by the author of the thesis. The instrumental analysis could have led to a more accurate identification of stress placement.

Another limitation may be the target words. The target words were chosen in order to avoid incorrect pronunciation. However, there were still cases in which mispronunciation occurs, especially, in words which contain schwa in the first syllable. The initial syllable was still stressed by many speakers due to insufficient or non-existent vowel reduction. Consequently, the study identified the mispronunciation of /æ/ as /e/ as a factor in incorrect stress placement. Even though both vowels have full vowel quality, a deviation in duration was detected. Czech English speakers tended to pronounce /e/ with a shorter

duration which then led them to place stress incorrectly on a different syllable. This confirms Volín's (2005) finding that Czech speakers tend to equalise the length of vowels in stressed and unstressed positions. This finding suggests that Czech speakers do not rely on duration to detect stressed syllables. It must be mentioned that this mispronunciation occurred mainly in the speech of G2 speakers, which means that their overall level of proficiency does not allow them the full understanding of the nature of English word stress. Moreover, unfamiliarity with some of the words may play a role here.

In addition, the results may not be generalisable to all Czech speakers because both G1 and G2 varied in the number and nature of their mistakes. Taking into account that each group consisted of only twenty-five people which then varied in their levels of English, further studies are necessary to determine the level of L1 influence on stress placement since this is quite a complex phenomenon.

Further research should concentrate on doing a more in-depth analysis of word stress placement in connected speech. Possibly, a study analysing and then comparing words said in isolation and then in connected speech could be conducted. It is quite difficult to determine whether the incorrect stress placement is a result of L1 influence or some other factor. It is therefore crucial to focus on the best way of investigating whether certain mistakes are due to L1 interference or not. A comprehensive understanding of how prominence functions in Czech is needed to better determine the degree of L1 interference.

To eliminate the problems which contributed to incorrect stress placement and minimise the influence of L1, it is important that English teachers focus on this aspect of English more. It is recommended to identify incorrect stress placement as soon as possible and concentrate on learning the appropriate stress patterns. Because the results indicate that incorrect pronunciation also influenced stress placement, it is necessary to encourage students to learn the proper pronunciation of words.

Conclusion

The purpose of this thesis was to examine the influence of L1 Czech on the placement of word stress in connected speech of Czech adult speakers. The theoretical part provides

definitions and basic information about the English word stress and its placement rules. Moreover, Czech word stress is explained and potential problems concerning L1 transfer in terms of word stress are introduced in order to fully comprehend the context and outcome of the research in the practical part.

In connected speech, there are different factors which contribute to word stress placement, such as the number of syllables and their structure, or the tendency toward regular rhythm. One of these contributing factors, namely the influence of L1, was the research objective of the practical part. The research conducted in the practical part provided the data necessary to answer the research question.

In the research hypothesis, it was proposed that speakers will misplace stress more often in words with Czech equivalents. 90% of mistakes in word stress placement, indeed, occurred in words with Czech equivalents, further confirming the influence of Czech. However, some of the results of individual target words may seem unforeseen. For instance, in research conducted by Sokolová (2009) focusing on the speech of Czech teachers of English, only 46% of speakers placed the stress correctly in the word *Brazil*. On the other hand, in the present research no deviation from the correct stress placement was detected in this word.

In addition, it was assumed that speakers without English as their university major and therefore with no instruction in English phonetics will tend to put word stress on the first syllable. The findings of the research demonstrated that words produced by speakers with no knowledge about word stress patterns had a higher error percentage. The results show that 75% of mistakes were made by these speakers. In most cases, the mistake in stress placement was that the words were stressed initially. Considering the fact that Czech word stress is fixed on the first syllable, it can be concluded that negative L1 transfer is the main reason for incorrect stress placement. Altogether, the results illustrate that the error levels are not as high in the target words, probably due to the fact that half of the respondents were students instructed in English phonetics and phonology and the other half of respondents had a sufficient level of English as well.

It is necessary to point out that the research is small-scale and future research should focus on including more speakers and creating different contexts in which the target words can be analysed. Additionally, the lack of instrumental analysis may have affected the results.

The research suggests the importance of teaching and learning word stress immediately when a new word is being learnt in isolation. Poesová suggests some teaching implications in her 2015 article, which focuses on the schwa-centred approach in teaching. Teachers are encouraged to "draw students' attention to the function of schwa in creating prominence contrasts" (Poesová, 2015, p.35). Among the possible tasks for the classroom she presents, she also proposes one which operates with English words that have counterparts in Czech. Students listen to both the English and Czech pronunciations of words and attempt to identify the reasons behind the differences in their sounds. Furthermore, Poesová and Uličná (2019) state that the differences and similarities between the mother tongue and the target language should be analysed in order to create the best strategy for pronunciation teaching in a classroom.

In conclusion, the results of the thesis shed light on the influence of the mother tongue on word stress placement which is one of the most important phenomena in the English language affecting the understanding and meaning of words.

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