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STRESS DIFFERENTIATION OF NOUN-VERB HOMOGRAPHS BY FINNISH ESL STUDENTS

ABSTRACT

Mikko Pajunen: Stress Differentiation of Noun-Verb Homographs by Finnish ESL Students
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This bachelor thesis presents a study of cross-language prosodic competencies of Finnish high school students (N = 28). Stress shifts of English noun-verb homographs made by Finnish native speakers attending a Finnish high school were studied by recording and analyzing the pronunciation of the students. The pronunciation test was conducted by recording the students' reading sentences out loud from a prepared sheet. Embedded in the sentences were 22 disyllabic homographs. Error frequencies of both variations of each homograph for a total of 616 items were analyzed. Out of 616 words, a total of 144 stress-related pronunciation errors were made. The stress-related pronunciation errors consisted predominantly of stress-inversion. Out of 308 verbs, 47 were stressed incorrectly as nouns. The corresponding numbers for nouns were 84 out of 308. Most frequently mispronounced were words with *con* as the initial syllable. The data indicates that the students significantly favor end-stress at predictable loci, which is ascribed mostly to hypercorrection. In conclusion, Finnish ESL students are adept at recognizing the need for contrastive stress in English noun-verb homographs despite the phenomenon's absence in their native language. The findings serve as a positive remark for the Finnish education system and more specifically the teaching of foreign languages in Finland.

Keywords: Noun-verb homograph, contrastive stress, pronunciation teaching

The originality of this thesis has been checked using the Turnitin OriginalityCheck service.

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1. Introduction

Every language is a system with its unique idiomatic features pertaining to suprasegmental aspects. Among some languages, suprasegmental features are more consistent and predictable, whereas other languages incorporate more irregularity. English and Finnish differ predominantly in terms of prosodic features, and this paper will explore how those differences interface in pronunciation. Thus, the research question is framed along such lines; this thesis investigates whether a Finnish L2 English speaker, in pronunciation, switches from the suprasegmental profile of his or her native language into English, and more broadly, the degree to which Finnish natives are aware of the phenomenon. Such transfers naturally manifest in stress, rhythm and intonation, likely outside the awareness of the speaker. It may also be the case that L1 speakers of some languages exhibit greater awareness and proficiency in cross-language phonology in comparison to L1 speakers of other languages. However, this thesis is limited to the cross-linguistic influence of Finnish on English. This thesis will focus exclusively on lexical stress, specifically the phenomenon of initial-stress derivation of verb-noun homographs. Such homographs are differentiated by distinctive stress and are found in great numbers especially in languages reliant on tone or pitch accent (Bauer 1992).

The hypothesis of the study is that native Finnish speakers retain their L1 stress patterns to a noticeable degree. This phenomenon may be studied most accurately by pronunciations of homographs where contrastive stress must be applied to express the syntactic meaning of the word. Since Finns are the focus of the study, it is to be expected that stress placed on initial syllables is over-emphasized when pronouncing noun-verb homographs, owing to the fact that the prosodic characteristics of Finnish dictate that words are stressed on initial syllables (see 2.2.).

Stress is an important part of speech and language competence in that it serves a key role in pronunciation, giving languages their own rhythmic patterns by which words may be recognized. Stress, specifically in English, may also indicate syntactic relationships between words or parts of

words, as in the case of noun-verb oppositions in which stress placement on syllables indicates the syntactic function of the word (Ladefoged 1975). Researching students' awareness of such language features should then be considered important in order to gain adequate understanding as to whether those features have been taught and learned properly. Eliciting findings of this nature may also shed light on Finnish culture, namely, whether consumption of American entertainment industry has induced language abilities and enhanced awareness of prosodic patterns for Finnish ESL students, and the extent of such phenomena. Indeed, it may be the case that consumption of primarily English-speaking internet content and entertainment has played a vaster role in furthering the English skills of Finns than formal school education. Explorations of prosodic competencies in Finns certainly require more research since the matter has not been studied extensively. Accordingly, this serves as a justification for conducting research in the area of lexical stress and more specifically how lexical stress is produced by Finnish ESL students. This study is concerned with high school students on the basis that word class dependent stress shifts are considered most appropriate to be studied in this age range while for younger age groups it could be deemed as being too challenging.

The structure of this thesis consists of an introduction, followed by a literature review in which pertinent literature and concepts are discussed. The third section will detail the methods which were used to gather data and the fourth section contains discussion of the data, or rather, results produced by the data. The fifth section discusses the implications of the research more broadly, and moreover, how the results are interpreted. The sixth and concluding section of the paper recapitulates the paper's purpose and findings, and also provides a conclusion in addition to remarks regarding future research and possible applications.

This study is related to linguistics first and foremost, but the Finnish education system is also implicated in a relevant manner since the study participants are Finnish high school students. The results yielded by research of this nature may therefore have implications for English teaching in Finland, albeit merely providing a snapshot of the whole picture instead of documenting the goings-

on in every school in the country. Thus, pedagogical perspectives are explored and borne in mind in the course of the research.

2. Literature Review and Discussion

This section further elucidates concepts such as lexical stress, stress differentiation, suprasegmental features, and literature pertaining thereto, in greater detail. The Finnish education system, more specifically English teaching in Finland, is also discussed in brief.

2.1. Lexical Stress

In producing stressed syllables, the speaker is expending more muscular energy relative to unstressed syllables. In other words, the muscles used to expel air from the lungs are more active, producing higher subglottal pressure. Another feature that makes stressed syllables recognizable is their prominence, which may be characterized by more than one factor; for instance, in a sequence of syllables, stressed syllables sound louder than their adjacent, unstressed counterparts. However, loudness alone does not suffice the production of a perceptual effect of stress. Also relevant for prominence is syllabic length. A syllable that is heard as stressed in a word is likely to be longer than the other syllables. (Roach 1991).

Pitch is a perceptual characteristic of speech that also affects prominence. Pitch is related to the frequency of vibration of the vocal folds and to the musical notion of low- and high-pitched notes. A syllable uttered with a high pitch in comparison to other syllables in the same word will be heard as a stressed syllable. Pitch movement especially creates prominence on the syllable, as in the case of the word “around.” The first syllable /a/, which is unstressed and thus realized as [ə], starts with low

pitch, followed by a noticeable rise on the second, stressed syllable [raʊnd], and then falls back to a lower pitch. Pitch movement, or tone, such as this produces the most prominent syllables. (ibid.)

English and other Germanic languages utilize stress-differentiation more than other language families. For instance, Czech and Finnish have initial-syllable-fixed stress. In Polish and Swahili, typically the penultimate syllable is stressed. Syllables in French words are mostly stressed equally, but primary lexical stress becomes apparent on the last syllable of the phrase. (Ladefoged 1975). This gives French its unique rhythm and it may also be observed in the idiosyncratic accent of French people who speak English. This indicates that the native language rhythm and stress patterns tend to carry over, in most cases, to the foreign language being spoken. The syllables of French words, in lieu of only stressed syllables, recur at regular intervals of time. Owing to their characteristic tendencies, French may be classified as a syllable-timed language, whereas Germanic languages such as English may be classified as stress-timed languages. (ibid.).

2.2. Stress Differentiation by Suprasegmental Affixes

Contrary to English, Finnish has predictable patterns of syllabic stress in that stress is placed on the first syllable (Iivonen & Harnud 2005). Finnish L1 speakers grow up accustomed to such regularity in their first language and may exhibit difficulties in their ability to distinguish the correct stress pattern in a foreign language with less predictable prosody. A Finnish ESL student, unaware of distinct cross-language stress patterns, may thus pronounce the word *photography* by stressing the wrong initial syllable (*'photo,graphy* as opposed to *pho'to,graphy*).

Owing to the “rigidity” of syllabic stress employed in pronunciation of Finnish words, it is appropriate to introduce the morphological phenomenon of the suprasegmental affixes (alternatively suprafixes or superfixes) in verb-noun homographs. Suprafix is a morph that is suprasegmental in its realization, internally modifying a word, as a “replacive morph,” to give it a different meaning, in this case,

shifting word-class. (Bauer 2003). Much of the English vocabulary has its roots in Greek, Latin and French, and these—particularly the Latin words—exhibit distinctive stress. Many authors (e.g. Kreidler 1987, Jespersen 1954) discuss the phenomenon of distinctive stress at length, noting that verbs of foreign origin, such as *appear*, *condemn*, *insist*, *permit*, retain end-stress of the original source words on the analogy of native prefixed verbs, while stress moves to or toward the initial syllable in the case of nouns (Kreidler 1987). However, the stress rules are by no means universal in English. There are in fact more homophonous noun-verb pairs than stress-differentiated noun-verb pairs, such as 'comment and re'sult (ibid.). In any case, the incidence of stress-differentiated pairs shows diachronic signs of increase since at least the 16th century, as per the lexical diffusion hypothesis (Sherman 1975, quoted in ibid.). Sherman (1975) postulates that homophonous homographs will eventually become stress-differentiated, indicating that the phenomenon will only grow in significance. It may then be the case that when a linguistic phenomenon increases in frequency, it becomes more noticeable and attracts more attention.

In comparison with Finnish, English appears to be more idiosyncratic in terms of pronunciation, which can be credited, at least in part, to its richer history of external influences by other languages, in addition to the two languages belonging to entirely different language families. Cases in which stress can be determined by word class membership seem to appear more often in English, especially where disyllabic verbs are contrasted with their homographic noun or adjective counterparts. The general rule is, as mentioned above, that the penultimate syllable receives stress in homographs denoting either a noun or an adjective whereas the verb counterpart receives stress on the final syllable (see 2.3.). Additionally, in tri- or polysyllabic verbs, the stress is on the antepenultimate syllable, and the ultimate syllable has a lesser degree of stress (e.g. *hy'pote,nuse* where the subscript accent mark indicates lesser degree of stress). (Kreidler 1987).

This may be summed up as a phonological process of replacive suprafixes, as discussed by Bauer (1992), who illustrates the phenomenon with three examples which can be characterized by a replacement in stress pattern in base form verbs that are changed to nouns:

'*discount* (n) *dis*'*count* (v)

'*import* (n) *im*'*port* (v)

'*insult* (n) *in*'*sult* (v)

As shown, the suprasegmental phonemes are replaced in order to signal the difference between noun and verb. Verbs are distinguished by end-stress. Therefore an English native speaker learns to pay closer attention to prosodic features of words and sentences in order to discern their meaning. This raises an interesting question of whether a Finnish native speaker is aware of this phenomenon, and if so, to what degree. Suprasegmental affixes are less common, or may not exist at all in Finnish, as they are considered more common in tonal languages found in Africa and Asia (Bauer 1992).

2.3. Characteristics of Syllable Stress by Word Class

This subsection summarizes the general characteristics of verbs, adjectives and nouns with respect to syllable stress. Exceptions excluded, adjectives and verbs exhibit similar stress differentiation from their noun counterparts.

Prefixed and disyllabic verbs are typically stressed on the final syllable. Verbs with initial stress tend to be derived from matching nouns or they have heavy initial syllables. There are three distinguishable patterns for noun-verb pairs with prefix + base: base-stressed pairs (e.g. *de*'*mand*, *re*'*lease*), prefix-stressed pairs (e.g. '*contact*, '*preview*) and finally pairs with the verb stressed on the base and the noun stressed on the prefix (e.g. *in*'*sult*/*'insult*, *pro*'*ject*/*'project*). (Kreidler 1987).

Adjectives also tend to have final stress. However, the relationship in terms of stress between adjectives and their verb counterparts is less clear: the adjective *a'dult* may have a corresponding noun *a'dult* or *'adult*. On the contrary, the noun *'expert* may be stressed as *'expert* or *ex'pert* as an adjective. However, nouns such as *'convex* are fore-stressed while their adjective equivalents are end-stressed (*con'vex*). (ibid.).

There is more variation in stressing nouns and the stress pattern is less predictable compared with verbs. Generally, disyllabic nouns are stressed on the initial syllable, and shifting stress forward in a loan word is what Kreidler (1987) calls an integrative change. Stress may be shifted forward for a number of different reasons, such as grammatical, rhythmic or semantic ones; *'offence* and *offence* are both nouns but their meanings differ. Without necessarily being aware of differentiating stress rules, a native English speaker will know which pronunciation of this noun denotes a team sports strategy and which denotes a personal attack. Some nouns have alternative pronunciations due to their having a stressable vowel in the initial syllable. Vowel reduction may thus impede initial stress. At first glance, *relapse* and *collapse* seem quite similar, but *collapse* has a schwa in its initial syllable. Therefore, *relapse* may be pronounced as *'relapse* or *re'lapse* but *col'lapse* may not be pronounced *'collapse*. (ibid.).

2.4. Sentence Stress and Contrastive Stress

It is also important to understand stress in a context wider than the level of individual words. Stress patterns for words may be subject to variation depending on what kind of context they appear in. This is where sentence stress, and contrastive stress that usually accompanies it, is appropriate to introduce, as sentence stress is a distinct concept from word stress (Boye & Harder 2012). While stressing a specific syllable helps assign each polysyllabic word its own identifiable sound-pattern, examining stress is rarely limited to utterances consisting merely of one or two words, or at the very least, it

becomes redundant to do so in the long term. This is because a word may be unstressed completely when it is placed in between other words, whereas if it was uttered in isolation as a single unit, it would automatically have stress simply by virtue of its being the most prominent word in the uttered combination of sounds. This is especially true of function words, such as the verb *be* and its conjugated forms.

In sentence stress, it appears that function words are unstressed and content words are stressed. This makes possible the uttering of words that totally lack stress: in the example *The Joneses are outside*, the *are* loses its stress because the adjacent words are relatively accentuated in comparison. The more prominent words in the sentence are either *Joneses* or *outside*, depending on the contextual meaning of each content word. However, there are cases in which simple function words, such as *are*, are stressed.

Stress begins to vary to a noticeable degree when utterances become long and stress begins to influence words depending on where they are located in the order of information, or alternatively, depending on the arbitrary significance assigned to them by the speaker. This type of variance occurs due to contextualization of the utterance; in a certain context, the speaker may want to contrast some elements of the sentence that he or she is uttering in order to make the listener pay closer attention to those elements. In laymen's terms, some words uttered by the speaker, in his or her mind, are more important than others, so they are made more prominent in the ensuing utterance.

The subjectivity involved in utterances is why the contrastive differentiation by contextualization occurs. If the example sentence *The Joneses are outside* is uttered in a manner of casual and non-conflicting observation, the *are* is most likely unstressed as it is a function word that bears little to no significant information to the listener. The listener almost automatically expects that word to be there, so little to no effort goes into pronouncing it; in fact it may be contracted in speech to such an extent that it may as well be transcribed as *the joneses 're outside*. However, the state of being outside may

carry significant information value, such as element of surprise. If the speaker was previously told by the listener that the Joneses are not outside, and the speaker proceeds to making an observation to the contrary, the sentence stress pattern will probably be altered. This alteration may be imagined as *The Joneses ARE outside*, with the capitalization implying added stress. This is an example in which adversative, conflicting information is uttered and a normally unstressed function word is stressed because it carries arbitrary significance in the mind of the speaker.

2.5. English Teaching in Finland

Since the middle of the twentieth century, English has become the most frequently taught foreign language in Finland (Leppänen et al. 2008). Moreover, the majority of academic publications are published in English. Eugene Garfield (1989) discusses the necessity of publishing research papers in English in order to have the widest circulation and greatest impact in the international scientific community. Accordingly, English is now taught as the first-priority foreign language in Finland. Children have traditionally begun learning English by the time they enter third grade in Finland. However, English teaching may now commence even sooner. Children who have started primary school may now be taught English as early as first grade per a 2019 modification to the primary school curriculum, which added specificity to the general guidelines for English teaching for grades one and two (Opetushallitus 2019a).

2.5.1. The Curricula for English Teaching

The way in which English is taught in Finnish schools is defined in the national core curriculum published by the Finnish National Board of Education, the foremost authority of education in the country. The curriculum lays out a general plan, outline and intended outcomes and goals for learning in each individual English course that is taught in a given phase of education. The English courses,

the contents and intended outcomes thereof, are tailored according to each level of education; primary, secondary and tertiary school all have their own curricula and course specificities. The national core curriculum is provided by the Finnish National Board of Education to municipalities that, after approval, go on to delineate a more specific curriculum taught in their local schools, based largely on the core version.

The local schools also generate so-called school-specific curricula so as to tailor the courses in accordance with their unique class schedules and also in order to teach the courses in a manner deemed suitable and appropriate by the school authorities. The national curriculum of a given ISCED level may thus undergo permutations as it is passed down to the level of local schools. This may give rise to differential outcomes and generally ways in which English is taught. Learning results and teaching methods may thus vary depending on not only the school but also municipality. For this reason it may be justifiably considered questionable to treat the concept of Finnish education as a monolith that functions and produces results in a similar manner throughout Finland. Indeed, major differences between schools have been observed in factors such as general achievement among pupils. However, such differences are more or less to be anticipated when measuring across an entire country. There is some evidence to suggest that even formative assessment differs between Finnish schools, meaning that pupils may be graded very similarly despite having drastically different skill levels. A study published by the Finnish National Agency for Education concluded the following:

It seems that teachers adjust their grades to the general competence level of their class. When the description of key knowledge and skills does not serve as a basis for evaluation, one can argue that there is no resultant equity in final grading. To ensure consistent final assessment, the Core Curriculum should provide teachers with more support for evaluation, by for example, defining grading criteria more clearly or by creating separate material for criteria-based evaluation. (Ouakrim-Soivio 2013).

This raises important questions as to the objectivity and fairness of grading and assessment carried out by teachers. Simultaneously, however, grading and assessment is supposed to function as encouraging and positively inspiring toward upward mobility in scholastic success.

The overarching theme in primary and secondary school curricula is that English and foreign languages in general are to be taught in a multipronged, versatile and holistic manner with no particular emphasis on one area over another. This is predicated on the fact that language is, in essence, a prerequisite for learning and thinking; every activity in school is encompassed by language (Opetushallitus 2014). In addition to advancing the development of the pupil's ability to think, learning languages cultivates in the pupil the formation and appreciation of a multi-language and multi-cultural identity. As vocabulary and grammatical structures immanent in languages are fostered, so are skills pertaining to communication. In language learning, there is much room for creativity, playfulness and fun. (ibid.). As one may infer from these descriptions, particular importance is placed on phenomena surrounding language, much of which seems to point to embracing foreign cultures and specifically the plurality of languages and cultures. Teachers are advised to encourage the pupil to adopt a disposition of positivity and curiosity toward the school community and the surrounding world. Many words are also dedicated to gender equality, which, taken together with the aforementioned, indicates an inculcation of values supplied with foreign language teaching.

The curricula also touch upon the learning process itself, specifically, how that process is to be facilitated and scaffolded. Namely, the teaching of foreign languages should strengthen the pupils' confidence in their abilities and readiness to learn languages and to use them without hesitation. The pupils should be provided the opportunity to proceed at a pace suitable to themselves individually and to receive support for their learning when needed. Teaching should be arranged in a way that also accommodates quick and advanced learners so that they too may find challenge in the subject, in this case, English. As is customary in English classes, it is encouraged that teachers present a wide array of texts while, in selecting the texts, taking into consideration the varied interests and hobbies of the pupils. The reasoning behind this is firstly to conjoin the language at hand to the personal lives of the children and secondly to develop multiliteracy. (ibid.). Multiliteracy is a pedagogical approach that

focuses on linguistic multimodality, more specifically, the representation of language through multiplicities of channels such as auditive, visual, electronic, paper, et cetera (The New London Group 1996).

The secondary school curriculum for the Finnish gymnasium (*lukio*) is divided into modules which provide the framework that teachers use to create individual English courses. Each module differs slightly thematically, touching upon topics such as development of language identity, English as a global language, culture as an instrument of creative expression, English as a means for impacting society, sustainable future and science, et cetera. Generally, the students delve deeper into various dimensions of language and its implications in different aspects of life. Language itself is discussed even on a philosophical level, exploring notions such as impact and importance of language. English is studied on specialized levels, such as sociolinguistics; how cross-cultural differences should be taken into consideration; what kind of different variants exist in the English language et cetera. The curriculum for the Finnish gymnasium is of major importance as a considerable portion of students in Finland graduate from the gymnasium. The gymnasium is also considered to be of preparatory nature to higher education, opening a pathway for the students to a future in potential academic careers. (Opetushallitus 2019b). Adherence to the guidelines laid out in the curricula is not, however, guaranteed nor monitored when teachers finally implement those guidelines in the classroom.

2.5.2. The Emphasis on Pronunciation in Teaching

The grammar and the lexis of any language is a rather obvious starting point in language teaching, but this raises the question of whether pronunciation or specific aspects thereof are taught prescriptively, or whether teachers of English as a foreign language consider it acceptable for non-native English speakers to retain an easily noticeable foreign accent. This solely depends on what the ultimate purpose of language teaching is and what is prioritized; whether it is simply textual and

communicative competence “sufficient” for intercultural communication, or acquisition of native-like proficiency.

Achieving a level of proficiency that resembles L1 English requires incorporating aspects in teaching, such as idiomaticity and intricacies of pronunciation, that would otherwise be left out while maintaining focus on more basic aspects of the language. However, this depends on the skill level of the student, firstly, and secondly the goal of the teacher. While some may ideologically cling to desires of being indistinguishable from native speakers of English, others question whether achieving native-like proficiency is possible in the first place. Seidlhofer (2001) claims that non-native speakers of English cannot, no matter how hard they try or how long they study, be members of the native-speaker community of English. Everyday observations confirm that a vast majority of L2 English speakers exhibit some markedness in varying degrees and on varying levels of speech.

There is little information available as to what degree Finnish language teachers prioritize pronunciation and to what extent they teach different aspects of pronunciation. This is partly due to the relative freedom exercised by Finnish teachers with regards to teaching methods, materials and techniques. In a word, no one is monitoring how English is taught in Finnish classrooms. According to the Finnish National Board of Education, pronunciation should be taught with explicit emphasis on individual sounds, intonation, rhythm, and stress on both word and sentence levels (Opetushallitus n.d.). It is nevertheless unknown how assiduously these guidelines are adhered to by most English teachers in Finland and the final implementation is always left to individual teachers. A small-scale study by Tergujeff (2012) showed that Finnish EFL teachers largely neglected suprasegmental features of speech in their teaching and instead focused on individual segmental features, such as sibilants and affricates. These findings indicate that teachers appear to put emphasis on what seems to be most difficult for students, namely sibilants and affricates. Suprasegmental affixes may then be considered less important since singular segments are far more ubiquitous and therefore of greater relevance.

Excluding preschool education, Finnish children's first experiences with phonology and pronunciation of English in a school environment may occur as early as first grade, though this development is rather recent. At any rate, the English verbal proficiency of Finnish ESL students may reasonably be expected to improve in the future generations due to such changes. English teaching on grades one and two may serve as a headstart to learning English. Worth considering here is also the fact that English teaching on these grades is inevitably based more on auditive aspects than textual ones, largely due to level at which a first-grader reads. The Finnish National Board of Education (Opetushallitus 2019a), in section 13.4.3 which specifies the purpose of foreign language teaching to first and second graders, prescribes in detail the approach that teachers should take with regards to English teaching on first and second grade. In these guidelines, as far as pronunciation and English phonology are concerned, emphasis in teaching is placed on spoken interactions in situations that are related to everyday life. It is further clarified that no ability to read nor write is required from pupils learning English at this level. Instead, teachers strive to spark in the pupil an interest toward spoken and written language, which is then gradually expanded upon by including reading and writing exercises and assignments. Exercises involving speech are suggested to be carried out by using song, drama and games. (ibid.).

The guidelines change for grades three to six as the goals here for learning are more diverse and multifaceted. The goals regarding pronunciation include providing the pupils with opportunities to produce speech on a wide range of topics while paying attention to the basic rules of pronunciation. The pupils practice common expressions such as greeting, asking for help and expressing one's opinions. The goals specify the basic rules of pronunciation as the observation and ample practice of pronunciation, word- and sentence stress, speech rhythm and intonation. Moreover, recognition of phonetic transcription is to be taught to pupils. Interestingly, these instructions appear typically at the end of the paragraph in which they are written. The order of information is relevant here as it may indicate prioritization.

The guidelines differ slightly for the seventh, eighth and ninth grades. However, the prescriptive aspect of pronunciation teaching is rather laconic in comparison to the guidelines for grades three to six. No specific mention of prosodic features is made, but instead the pupil should be directed to pronounce English in a proper manner. (ibid.). What exactly is meant by the phrase proper manner is somewhat unclear. At any rate, this could be interpreted as a step away from the prosodic aspect of pronunciation.

The curriculum for the Finnish gymnasium divides the intended outcomes to discrete modules which are courses attended by the students. Important to note here is that some courses are compulsory for all students while others are optional. Some courses have pronunciation and oral production as a central theme while other courses may not involve explicit teaching of different aspects of pronunciation at all. The guidelines contained within the curriculum do not use accurate expressions with regards to how pronunciation should be taught. Instead, rather vaguely, the courses are intended to strengthen various skills related to interaction and deepen the understanding of factors that influence various situations in which interaction takes place (Opetushallitus 2019b). Additionally, one of the courses has as its central theme the various features of speaking. Whether this has to do with the phonology of English and its correct pronunciation is unclear. Another course delves into production of phonemes and speech. Hardly any obvious mention of the prosodic features, such as suprasegmentals, is made. Although the curriculum states that interactions involving spoken language is practiced throughout all studies, this should not be interpreted as the equivalent of teaching pronunciation. (ibid.). Indeed, it may be the case that many English teachers consider it unnecessary to teach pronunciation at length so long as the students are regularly engaged in spoken language exercises in which they are actively pronouncing English. There may exist an assumption that the students learn pronunciation by speaking English on their own accord, and while this may be true in some cases, it does not mean that pronunciation should not be taught in an explicit manner.

In summary, phonology and pronunciation are emphasized, albeit not to an utmost degree, on every level of the curricula examined here. It may be gathered from the curricula that teachers are given more or less free rein when it comes to the methods themselves. In a word, much is left to the teacher to decide how and what to emphasize when he or she eventually teaches topics that are related to pronunciation. Whether this freedom is conducive to positive learning results or not is largely unknown as freedom of choice without specified and explicit prescription may lead to teaching that is insufficient in certain areas. Some language teachers may have areas of weaknesses in their own language skills that they are not confident teaching, such as grammar, which, in the absence of sufficiently explicit guidelines, could lead to reluctance of teaching the subject matter to an adequate extent.

3. Methods and Materials

Pronunciation of high school students ($N = 31$) ranging from ages 17 to 19 was tested with pre-written sentences to be read aloud and recorded for later analysis. The tests were conducted in the school building in which the participants were students. The average age of the participants was 17. A total of 11 disyllabic noun-verb pairs of interest were embedded as singular words into discrete sentences on a sheet of paper (see Appendix 1). Each student was queried to determine age and first language. Those who spoke a language other than Finnish as their L1 were removed from the final data analysis. Also removed from the final analysis were students younger than 17 years of age. Controlling for age and first language, a total of 28 participants were ultimately analyzed. The recruiting of the participants was conducted in cooperation with the students' English teachers and the recordings were conducted in conjunction with the students' English lessons. In the recruiting of the participants, efforts were made to ensure that the participants' individual English skill levels were as heterogeneous as possible in order to acquire a diverse sample from an otherwise homogeneous group. This was made possible by the teachers' encouragement of getting everyone in the class to participate regardless of their self-perceived English proficiencies.

The purpose of this study was to test the students' ability to differentiate, based on syllable stress, identical words that belonged to discrete word classes. As shown in table 1, such stress differentiation is typically quite predictable.

Table 1. The 11 noun-verb pairs with corresponding word class-dependent stress patterns.

Homograph	Verb stress pattern	Noun stress pattern
Present	Pre'sent	'Pre,sent
Record	Re'cord	'Re,cord
Rebel	Re'bel	'Re,bel
Contest	Con'test	'Con,test
Construct	Con'struct	'Con,struct
Desert	De'sert	'De,sert
Conflict	Con'flict	'Con,flict
Subject	Sub'ject	'Sub,ject
Conduct	Con'duct	'Con,duct
Address	Ad'dress	'Ad,dress
Protest	Pro'test	'Pro,test

Secondary stress markings (,) added to nouns for clarification as to where stressed syllables end and unstressed syllables begin.

In order to conceal the overt significance of the noun-verb pairs for the study, it was ensured that the participants remained unaware that the pairs were specifically relevant for the study. This was done in order to mitigate the Hawthorne effect in relation to the noun-verb pairs and make sure that participants do not perceive certain parts of the text as being of greater importance for the researcher, lest this affect their pronunciation.

As shown in Appendix 1, the word pairs were “hidden” within the text, in between arbitrary information. The order of information was arranged in a way that the pairs had in between them unrelated sentences on the physical paper. The noun-verb pairs appeared in discrete sentences, and the sentences were scrambled in a way which appears haphazard at first glance, but in fact had been placed in a careful and deliberate fashion. This means that the sentences are placed in a scrambled and seemingly randomized order, but also that the sentences with matching noun-verb pairs are intentionally placed far away from each other. This can be conveniently illustrated with a rhyme scheme; instead of using a side-by-side rhyme pairing such as AABBCDDDEEFFGG, the configuration would be randomized as, for example, CAEDBGAFBECGDF. Here, the uppercase letters symbolize the sentence in which a homograph appears, and the identical letters, or the rhyming word in the context of a rhyme scheme, symbolize a homograph in a different word class. In other

words, A would be, for instance, *construct* (v) and the second A would be *construct* (n). The placement of the 22 items may then be illustrated as ABCDEFGHIBJEKACKHDFGIJ. The scrambled letter order shows that the letters are randomized, yet always purposely remote from their identical pairs.

The sentence order described above was used because it makes pattern recognition impossible with respect to what is being studied, as it overrides the working memory of the test participant by placing trivial words in between significant words that the researcher is in fact looking for. This ensures that the participants cannot know what the target words of the study are, and thus cannot exercise extra care in pronouncing them. This not only prevents hypercorrection, but it also allows for a more natural pronunciation that would be anticipated in a more ordinary setting.

To further prevent the participants' detection of the items of significance, placed into the sheet were so-called decoy sentences, such as *Salts of various kinds are essential for life*. None of these sentences contained any of the words that were ultimately analyzed. After reading the series of sentences, the participants were informed of the study's purpose.

4. Results

A total of 11 disyllabic noun-verb homographs were isolated from the recordings of each participant and analyzed in terms of stress differentiation. Stress is created in disyllabic nouns and verbs by making either the first syllable or the final syllable more prominent. Alternatively, syllabic stress may be called fore-stress and end-stress. Prominence may be expressed either through loudness, syllabic length, pitch or a combination of these (Roach 1991).

The recordings of 28 participants' pronunciation yielded a total of 616 homographs to be analyzed, split equally into 308 nouns and 308 verbs. Out of 616 words, a total of 144 pronunciation errors were made. Out of the 144 errors, 131 were related to stress-word class discordance, such as erroneous fore-stressing of verbs. Of the 144 errors, 13 were related to an inability to pronounce a word as a disyllabic unit, due to which stress placement was not possible to be determined. There were significant disparities with regards to incorrectly pronounced words. These disparities are illustrated in Table 2.

Table 2. Total number of fore-stresses and end-stresses per item, and total erroneous pronunciations for each word's both variations.

Homograph	Fore-stressed	End-stressed	Erroneous pronunciations
Present	25	30	5
Record	8	48	20
Rebel	28	28	2
Contest	24	22	18
Construct	22	30	19
Desert	22	33	15
Conflict	37	19	19
Subject	38	18	10
Conduct	13	42	20
Address	23	33	11
Protest	29	27	5
Total	269/308	330/308	144/616

Table 2 shows that students exhibit clear bias toward erroneous end-stressing. This finding runs counter to the initially anticipated bias for fore-stressing due to relatively fixed fore-stress pattern of

the Finnish language. The error distribution is also uneven. *Conduct* and *record* show the most pronunciation errors at 20, while *rebel* has two. The errors at the loci of *record* and *conduct* are very predictable in that they were overwhelmingly end-stressed. This is not the case for certain other words with similarly high number of errors. *Contest* has 19 total errors, yet it was stress-differentiated very evenly at 24 fore-stresses and 22 end-stresses. This is due to the fact that there was significant reverse-stressing of *contest*, in other words, nouns were stressed as verbs and verbs were stressed as nouns. *Rebel* has similarly a perfectly even differentiation at 28-28, yet two errors were made. These occurred at one instance of the noun variation being pronounced as verb and another instance of the verb variation pronounced as noun. However, table 2 does not provide the entire picture as some errors were not related to stress-differentiation but other types of error, such as pronouncing words incomprehensibly.

Nouns were stressed incorrectly nearly twice as many times as verbs. Split between all 28 participants, a total of 84 nouns were stressed incorrectly as verbs and a total of 47 verbs were stressed incorrectly as nouns. Out of 22 items, an average of five errors were made per participant. The mean errors differed slightly when comparing boys and girls. Boys (N = 16) made 4,68 errors per person on average. Girls (N = 12) made 5,58 errors per person on average. However, these differences are slight and possibly a product of random chance.

5. Discussion

There is not much extant literature pertaining to empirical studies regarding word class dependent stress shifts as far as Finnish students are concerned. Consequently, this study lacked a clear backdrop and prior research in cross-language syllable stress shifts to which the findings could be compared conveniently. Moreover, the methods and scope of this study were relatively restricted. However, the findings suggest that Finnish L2 speakers of English are aware of not only different stress patterns in English but also varying stress contingent on word class.

Finnish has predictable patterns of syllabic stress in that stress is placed on the first syllable (Iivonen & Harnud 2005). However, the participants of this study exhibited a stress pattern to the contrary with a clear bias toward end-stress even in loci where end-stressing was erroneous. There were nearly twice as many erroneous end-stresses as erroneous fore-stresses. There are multiple possible explanations as to why this is the case. It is possible that end-stressing occurred due to hypercorrection. Conscious, explicitly or implicitly, of the fact that English has a different phonology in comparison to their L1, the students may have favored a reverse pattern in stressing polysyllabic words. At any rate, this type of finding is counterintuitive.

Significantly overrepresented in erroneous pronunciation in the data are four disyllabic homographs with the initial syllable *con*, which is certainly an intriguing finding. When pronouncing the words “Contest,” “Conduct,” “Construct” and “Conflict,” many of the students appeared to split the words in half by dragging out the n-letter, the coda of the first syllable. This made it impossible to determine which syllable was stressed and the reason may be credited to hesitation. It is possible that words beginning with the syllable *con* appear less frequently in speech and writing of informal register and is therefore less familiar with young students. This might be the reason for hesitation in pronunciation and also erroneous stress differentiation.

Some participants exhibited self-correction which implies awareness of correct stress differentiation. Interestingly, this occurred exclusively with *Desert* (n) where some participants first end-stressed it but then quickly realized that it should be fore-stressed. It is not clear why self-correction happened with some words but not others.

A possible objection to the validity of this study's findings is that the study participants read from a paper, which could potentially produce different verbal output as opposed to an ordinary conversation setting. There is also no guarantee that the participants involved in this study used their natural pronunciation and did not overcompensate while reading out loud. However, it was emphasized that participation would be entirely voluntary and would carry no consequences for the students whether or not they participated, and regardless of how they fared in the pronunciation experiment. These emphases were expressed in order to make the experimentation setting as ordinary and laid-back as possible and in order to obviate possible performance anxiety. Nevertheless, some participants appeared nervous which is a potential hindrance to genuine and reliable results.

The homographs were analyzed in isolation which may have partially skewed the results of the study. It is possible that sentence stress might have modified the perception of the homographs, or more specifically, the way the homographs look they should be stressed in a given sentence. For instance, collocation of homographs next to specific words, such as *to*, may cue the reader to believe that the upcoming word to be pronounced is an infinitive verb. Sentences such as *You need to conduct yourself properly* may have been read in this way and possibly interfered with the way *conduct* was pronounced. Another such factor is tense which adds inflectional suffixes into verbs, thus "revealing" their word class in the process. Making the verb homograph stand out in this way from the noun counterpart may have affected the results. However, it may be stated with confidence that whatever interference these factors may have caused, their influences were marginal and did not significantly impede the ultimate goal of the research.

6. Conclusion

The purpose of the study presented in this thesis was to shed light on cross-language prosodic competencies of Finnish high school students by analyzing specifically noun-verb homograph stress differentiation. The study specifically focuses on the phenomenon in which speakers adjust their native phonology and consciously adapt to a different phonology while speaking in a foreign language. It was hypothesized that native Finnish speakers retain their L1 stress patterns to a noticeable degree. The retention was thought to be encapsulated when the speakers pronounced stress-differentiated noun-verb homographs where contrastive stress must be applied in order to express the syntactic meaning of the word, in other words, differentiate the verb from the noun and vice versa. Contrary to initial expectations, the study participants showed a significant tendency toward end-stress. The participants appeared to favor end-stress even in noun variants of the homographs, which is reflected in the finding that nearly twice as many noun stress-inversions were made in comparison with verb stress-inversions.

Overall, of the 616 total words that were analyzed, only 144 errors were made, which speaks positively for the Finnish education system. The relatively low number of total errors indicates that the students that participated in this study are adept at recognizing when a word requires a non-initial syllable to be stressed. Furthermore, this suggests that the students have most likely been actively involved in foreign language learning from a young age, thus implicating them as a positive representation of the educational institutions in Finland. Indeed, the teaching profession in Finland is highly regarded in addition to having a requirement of a master's degree in order to work as a qualified teacher, which in its own right may give rise to positive learning results. However, the findings of this study are by no means universally representative in Finland, and thus cannot be generalized to the broader national population. Moreover, a follow-up study would greatly benefit from a comparative group, such as the Finland-Swedes, and possibly an incorporation of discrete

municipalities or even provinces. At any rate, further inquiry into the verbal proficiency of Finnish ESL students and their experiences of pronunciation teaching is certainly warranted.

Another interesting idea for future research could ideally involve the inclusion of more varying elements of word stress, which might include stress at a sentence level. Additionally, bearing in mind the present study which was limited to noun-verb homographs, incorporating the word class of adjectives to the mix might yield interesting findings. This might make a pronunciation test more difficult, as the homograph dyads would now be expanded to triads, and it would also require more complex mental processing to occur in the moment. Also worth investigating could be concepts such as compound stress as it is possible that this might present problems for Finnish ESL students of multiple different skill levels. Indeed, what further complicates a concept such as compound stress is its subtlety, which easily leads to its being overlooked by language educators. Indeed, many teachers who do not speak English as their first language may not be aware that compounds have their own specific stress patterns, characterized by the first constituent carrying the main stress (Booij 2017).

Further research is required in order to acquire a more accurate picture of the prosodic features and the extent to which Finnish students have learned them. Due to its importance in speech and general comprehensibility, prosody as a linguistic feature warrants further research. The general positive attitude of Finnish teachers toward academic research provides a fertile ground for future researchers who wish to study Finnish students.

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Appendix 1. The pronunciation test sheet containing the 22 homographs read aloud by the study participants.

Lue ääneen:

The key witness presents a compelling account of events that took place.

You must record your own voice in order to hear what you really sound like.

Argon is found in abundance in the upper atmospheres.

The Catalans rebelled against the Spanish government.

There's a dancing contest here tomorrow.

There are still over three hundred human corpses riddled along Mt. Everest.

This German company constructs vehicle motors.

An arid, dry land is what we call a desert.

The violent conflict in Africa can be credited to poor demarcation between African countries.

The court held that a plaintiff could be subjected to discrimination.

Andrew has a worrying blood pressure.

You need to conduct yourself properly.

Some fluctuations have been measured.

The best record by David Bowie is called 'Young Americans'.

Can you remember what Peter's address is?

What can we define as a social construct?

The paper examines different dimensions of visual culture of protest.

Antarctica is bigger than Europe and North America put together.

The best Christmas present I've ever gotten was a guitar

The fearless rebel rose in opposition against the established government.

John protested the chairman's decision.

Polar bears are the most dangerous of all bears.

The subject of societal victimization receives more attention in the academic literature.

The ruling has not been contested.

Those disloyal people probably would desert us on the battlefield.

Salts of various kinds are essential for life.

The political parties disagree; their interests conflict.

You might be expelled because of your poor conduct.

These problems were already addressed.

Appendix 2. Tables.

Table 1. The 11 noun-verb pairs with corresponding word class-dependent stress patterns.

Homograph	Verb stress pattern	Noun stress pattern
Present	Pre'sent	'Pre,sent
Record	Re'cord	'Re,cord
Rebel	Re'bel	'Re,bel
Contest	Con'test	'Con,test
Construct	Con'struct	'Con,struct
Desert	De'sert	'De,sert
Conflict	Con'flict	'Con,flict
Subject	Sub'ject	'Sub,ject
Conduct	Con'duct	'Con,duct
Address	Ad'dress	'Ad,dress
Protest	Pro'test	'Pro,test

Secondary stress markings (,) added to nouns for clarification as to where stressed syllables end and unstressed syllables begin.

Table 2. Total number of fore-stresses and end-stresses per item, and total erroneous pronunciations for each word's both variations.

Homograph	Fore-stressed	End-stressed	Erroneous pronunciations
Present	25	30	5
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