AMERICAN UNIVERSITY OF ARMENIA

College of Humanities and Social Sciences

The Relationship between Extensive Listening to Podcasts and Incidental Vocabulary

Acquisition

A thesis submitted in

partial fulfillment of the requirements for the degree

Master of Arts in Teaching English as a Foreign Language

By

Nare Hakobyan

Irshat Madyarov, Adviser

Lilianna Edilyan, Reader

Vahe Movsisyan, Statistical consultant

Yerevan, Armenia

2021

We hereby approve that this capstone

By

Nare Hakobyan

Entitled

The Relationship between Extensive Listening to Podcasts and Incidental Vocabulary Acquisition

Be accepted in partial fulfillment for the requirements of the degree

Master of Arts in Teaching English as a Foreign Language

Irshat Madyarov, Adviser

Lilianna Edilyan, Reader

Vahe Movsisyan, Statistical consultant

Irshat Madyarov, Ph.D.

MA TEFL Program Chair

Yerevan, Armenia

2021

ACKNOLEDGEMENTS

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

Abstract

The purpose of the study was to investigate the relationship between incidental vocabulary acquisition and extensive listening to podcasts. The choice of the topic was not random as EFL students acquire the majority of their vocabulary incidentally, whereas listening to podcasts is becoming a popular habit among EFL learners. Therefore, there was a need for more academic research to understand what type of relationship exists between incidental vocabulary acquisition and extensive listening to podcasts in order to grasp whether the practice is worth sharing in the EFL context or not. Moreover, an attempt was made to identify whether the time spent on podcasts' listening may impact the vocabulary acquisition. Other contextual features of interest were the frequency of the target vocabulary in the input, its distribution across the episodes and the participants' attitude to the practice. The research design was experimental with mixed-methods. The instruments applied are both quantitative and qualitative: the Ultimate Vocabulary Levels pre- and post- Tests, pre- and post-project-designed tests, listening journals, surveys, teacher interviews and listening comprehension tests. The sample is 32 private school students separated into experimental and control groups, where the experimental group was exposed to listening to podcasts as an extra- curricular activity whereas the control group had the curricular teaching according to the course curriculum. The findings indicated that a seven-week exposure to the episodes led

to the acquisition of 17.84 lexical units with 11.05 having been identified at the pre- test and 25.11 remaining not acquired. The gains were significantly impacted by the frequency and the distribution of the target vocabulary, as well as the amount of time spent on listening to the episodes. The participants' attitude was mainly positive about the practice.

Key words: incidental vocabulary acquisition, extensive listening to podcasts, the frequency of the vocabulary, the distribution of the vocabulary across the episodes.

CHAPTER ONE: INTRODUCTION

Vocabulary learning is essential in a foreign language acquisition (Nation & Meara, 2010, 2020; Nunan, 2015; Schmitt, 2000). Words, in contrast to other aspects of language learning, are the main semantic units which convey meaning and impact the flow of communication immediately in terms of comprehension. The richness of vocabulary makes communication much easier and opens up more opportunities for EFL learners.

Traditionally, in an EFL context teachers pay a due attention to vocabulary teaching which is often explicit (Nation, 2013). The vocabulary range that is taught and included in the coursebooks is the most frequent vocabulary which is the most frequent words at 1000, 2000 and 3000 levels (Nation & Meara, 2010; Schmitt, 2000). However, for an educated EFL learner the overall vocabulary necessary for solid commutation is from 9000-15,000 words (Nation, 1995, 2006). It means that a huge range of vocabulary is left to be acquired implicitly or explicitly after the school graduation with or without the use of the strategies taught at school (Nation & Chung, 2009; Schmitt, 2000). The most common ways to do so are watching movies, listening to songs, reading graded readers, listening to podcasts, etc.

From the perspective of implicit vocabulary acquisition, researchers have been interested in the study of the ways that might be the most effective to acquire vocabulary. Similar research is very significant because it will help teachers incorporate those learning modes at school in parallel to explicit teaching so that learners will leave schools being already aware of how to use the necessary strategies (Nation & Chung, 2009; Nation & Meara, 2010) to contribute to their vocabulary growth the best.

So far the most research on implicit vocabulary acquisition has been conducted via the integration of graded readers (Horst, 2005; Lee, 2007; Schmitt, 2000), authentic novels (Pellicer- Sanchez & Schmitt, 2010), recorded lectures (Vidal 2010, 2013) or podcasts

(Mechraoui, Mechraoui & Raffeeq, 2015). In addition, there have been studies on which is a more productive way to acquire vocabulary- reading, listening or reading and listening simultaneously (Brown, Waring, & Donkaewbua, 2008; Waring & Takaki, 2003; Webb and Chang, 2015).

Despite the huge amount of the aforementioned research, there is still a need for the current research. Firstly, there has not been sufficient research on how incidental vocabulary is acquired when being exposed to the authentically oral spoken discourse as a meaningful input. The former research has mainly been about how incidental vocabulary learning occurs with the written discourse accompanied with its audio representation (Webb & Chang, 2015) or with academic lectures (Vidal, 2003, 2011). To add, the one on the incidental vocabulary acquisition and listening to podcasts (Mechraoui, Mechraoui & Raffeeq, 2015) was rife with so many unclear questions that its reliability and validity may be questioned quite easily. Some of those dubious points were about vocabulary profiling, vocabulary size measurement, the lack of information about if the episodes were aligned with the coursebook chapters or not, what vocabulary was included in the tests, etc.

Secondly, most research has been with the participation of university students (Horst, 2005; Mechraoui, Mechraoui & Raffeeq, 2015). The incongruity between the conditions they were put in during the research and their already-developed learning habits might have impacted the results quite negatively. To add, in some studies the students were made to listen to the audios and do the readings in the auditorium conditions for long hours (Brown, Waring & Donkaewbua, 2008). Therefore, it may not be surprising that their reading or listening was not that productive.

In the current paper, the goal is to acquire data on how incidental vocabulary is impacted by listening extensively to podcasts by high school students. The problem faced is

that there is a lack of research data about how incidental vocabulary is acquired when being exposed extensively to the podcasts which are delivered with the spoken, non-academic language about the same topic.

The significance of the current experimental research with mixed methods is that it helps to answer whether extensive listening to podcasts expressed with a spoken, non-academic genre for the purpose of incidental vocabulary acquisition is effective or not. If the effect of the audio input is found out to be positive, then the practice of the vocabulary acquisition is worth sharing with EFL teachers and students. The formation of the habit to listen to podcasts for enriching one's vocabulary incidentally will assist future school graduates in increasing their EFL vocabulary independently as life-long and autonomous learners. Moreover, it will lead to the diversity of the meaningful input for auditory learners who will be fond of being offered an alternative to reading authentic novels or graded readers.

Receptive vocabulary, which is the vocabulary used for reading and listening (Nation & Meara, 2010; Pellicer-Sanchez & Schmitt, 2010; Schmitt, 2000), is the type of vocabulary under investigation in this study. In addition, the vocabulary aspect to be examined is the form and meaning relationship: how many words will be acquired with the contextual meaning in the given form immediately after the project.

The research questions put forward in the research are the following:
1. Is there a relationship between listening to podcasts and incidental vocabulary acquisition?
2. What effect does the amount of time spent on listening to podcasts have on the incidental vocabulary acquisition?

3. What is the relationship between the frequency of occurrence of the target vocabulary in podcast episodes and incidental vocabulary learning?

4. What is the relationship between the distribution of occurrence of the target vocabulary across the podcast episodes and incidental vocabulary learning?

5. What is the learners' attitude to vocabulary acquisition via podcasts?

CHAPTER TWO: LITERATURE REVIEW

2.1. Incidental Vocabulary Learning

As already discussed learning vocabulary is of utmost importance in a second or foreign language acquisition (Ma, 2009; Singleton, 1999). Conventionally, there are two approaches of vocabulary acquisition: intentional and incidental (Pellicer-Sanchez & Schmitt, 2010; Schmitt, 2000). The difference between them is that in the first case the focus is on the

intentional instruction of the word with greater chances that they will be acquired. For the second case, the stress is on the language use in a meaningful context during communication (Robinson, 2001; Schmitt, 2000).

The first approach is beneficial during the first stages of language acquisition when the learner needs the help to get the most frequent vocabulary (1000-2000 level words) with the teachers' support. Though it is faster and less expensive (Nation, 1995, 2009), it is more about the high-frequency words within a limited time duration.

On the other hand, an average educated foreign language learner needs more than 9000 words to satisfy their communicative and professional needs (Pencillar-Sanchez & Schmitt, 2010). After explicit instruction incidental vocabulary acquisition seems to be the most suitable way to progress in the vocabulary of a foreign language. It requires less efforts and mental focus by the learner more being about communication, reading, listening or writing (Schmitt, 2000).

To draw a comparison with a native speaker's language acquisition, out of 15-20,000 word families of an educated person, the most are acquired incidentally. Even before going to school a child acquires 4000-5000 word families at home, themselves without explicit in-class instruction (Ingram, 1989 as cited in Pencillar-Sanchez & Schmitt, 2010; Nation, 2013). Undoubtedly, the vocabulary growth with this approach is slow which may make the learning longer but is quite effective and sometimes the only option for learning infrequent words (Nation, 1995) which is about the majority of the English language vocabulary.

Moreover, vocabulary learning is a multi-staged and complex process where the vocabulary is accumulated with an intentional learning and high level of motivation, therefore it is hard to imagine that school education will be enough to accompany a learner through that process of 9000 and more word learning. As Nation and Meara (2010) stated

"The low-frequency words are so infrequent, have such a narrow range of occurrence and make up such a large group that they do not deserve teaching time" (p. 37).

Nevertheless, incidental vocabulary acquisition needs to have its context and context-specific features for its learning to happen. One of those features is providing a multiple number of exposures for the learner with the word so that the word becomes an incremental part of the learners' mental lexicon (Nation & Meara, 2010; Schmitt, 2000; Webb, 2007). On average, the exposure is assumed to be from 5-16 and more (Cobb & Meara, 1998; Nation, 1999; Webb & Chang, 2015; Webb, 2007; Horst, 2005) and even 20 (Waring & Takaki, 2003).1 Despite the significant amount of research on the number of exposures and repetitions, there is no solid confirmation that a fixed quantity of repetitive exposure may lead to the incidental vocabulary acquisition (Nation & Wang, 1999; Webb & Chang, 2015).

Another feature is the context with 95 % vocabulary coverage so that the context itself serves as an explanation for the word meaning and is not demotivating for the learner to target the new vocabulary (Nation, 2013; Schmitt, 2000). However, there are numerous cases when the context itself contains no clues to the meaning revelation but the learning may happen (Laufer, 2003).

Other contextual features are noticing so that new words are focused attention on and an attempt is made to learn them (Schmidt, 1994), guessing (Elley, 1989) and retention (Nagy, 1997). All of them are still open to criticism such as the ignorance of the vocabulary in order to comprehend the message or some confusion brought about by seemingly identical forms that are different in their meanings (Luafer, 2003). It is possible to fail at guessing as well because of the absence of contextual clues, poorly-developed guessing skills or the presence of clues that are unfamiliar (Laufer, 2003).

The same holds true for retention while guessing. No retention may take place due to simple guessing. Even more, the findings indicated that the harder the guessing is, the more chances there are that the brain will undergo through more processing and will retain the words better than the simple guessing with no effort put into it (Jacoby, Crail & Begg, 1979, as cited in Laufer, 2003).

Quite often it is suggested to consider these two approaches "complementary" (Schmitt, 2000, p. 121) where the teaching of the core vocabulary of 1000-2000 most frequent words is explicit and intentional while the rest is incidental with the use of necessary strategies that facilitate the complex process of vocabulary acquisition at the perception and production levels (Nation, 2001).

2.2. Incidental Vocabulary Acquisition in Reading and Reading while Listening

To begin, extensive reading through graded readers has been the most popular context for researchers to study incidental vocabulary learning (Cho & Krashen, 1994; Horst, 2005; Mechraoui, Mechraoui, & Raffeeq , 2015; Pigata & Schmitt, 2006; Schmitt, 2000; Waring & Takaki, 2003) despite the possible flaws discussed above. These types of books are convenient because they are mainly comprised of the high frequency words with an inclusion of some new or infrequent vocabulary. In other words, the context is basically made up of familiar words (Elley, 1991; Nation, 2013). They are presumed to be useful for beginner and intermediate EFL learners having 5000 words that are expressed with 300-500 word families. Their number can increase up to 25,000-35,000 and be materialized with 2000-2500 word families (Cobb, 2007, 2008; Nation & Meara, 2010) usually stopping at around 3000 word level (Pencillar-Sanchez & Schmitt, 2010).

In the research by Cho and Krashen (1994), four participants read a number of graded readers for four months with 62% word gain from the readings. In the study by Horst (2005), the number of graded readers was 37 within six weeks. During that time, 17 adult participants

managed to gain 76 % high-frequency words and 62% low frequency words. Another study was conducted by Pigada and Schmitt (2006) where one participant read four graded readers within a month with 65% gains. One graded reader was applied by Waring and Takaki (2003) with a 24 immediate test and 3.6 delayed-test gains. In all the above mentioned cases, the investigation was on receptive vocabulary gains, that is word-meaning connection and meaning recognition (Nation, 2013; Schmitt, 2000).

However, there were some points in the former research that need some reconsideration such as a small sample size (Pigata & Scmitt, 2006; Cho & Krashen, 1994). Another limitation was the difference in the genres of the graded readers (Horst, 2005), the limited number of vocabulary in graded readers (not more than 3000-4000 word families) (Pencillar-Sanchez & Schmitt, 2010), their inauthenticity (Nation & Meara, 2010) or the imbalanced distribution of the infrequent vocabulary at different levels (Webb & Chang, 2015).

To add, they may not be the most preferred way to acquire incidental vocabulary because of the amount of the reading a student might do (Nation & Wang, 1999, as cited in Luafer, 2003). Students are expected to read one graded reader every two weeks (Nation & Wang, 1999, as cited in Nation & Meara, 2010).

Another point open to debates is guessing, noticing and familiarity with 95-98% vocabulary (as an all-at-once concurrent feature for incidental vocabulary acquisition) slow down and inhibit the vocabulary learning process intensely (Laufer, 2003). As a written genre with 8000-9000 word families they require an extended vocabulary size to face 98 % coverage (Hu & Nation, 2000).

Besides the flaws mentioned, graded readers, overall, are insufficient to satisfy the needs of proficient learners because as Cobb (2007, 2008) stated the less frequent the vocabulary is, the fewer its occurrence is: out of 30 words 27 occur enough times to be

acquired at the 1000 word level. The word number reaches about 24 words out of 30 at the 2000 word level, which turns less (approximately 11) at the 3000 word level. Hence, learners at some point have to switch to authentic materials to gain a solid vocabulary.

Quite noticeable is that all the limitations pinpointed earlier have become the cause for researchers to look for other support or alternatives to graded readers one of them being audio aids while reading (Brown, Waring & Donkaewba, 2008; Webb & Chang, 2012, 2015; Webb, Newton & Chang, 2013). The results have been quite impressive so far with 19.68 words gained on the post-test and 36.66 words on the delayed post-test out of 100 lexical units (Webb & Chang, 2015). The explanation is the listening promotes superior comprehension and helps to separate the text into larger units this way stimulating the working memory to perceive the text better and process new words more productively (Nation, 2013; Webb & Chang, 2012). The audio support is huge, especially if the long-term learning is paralleled with discussions, journals, reports, etc. (Webb & Chang, 2015) because the number of repetitions makes the form and meaning references stronger.

Another limitation was the differences in learners' proficiency levels and the lack of a choice to read whatever they wanted to read (Webb & Chang, 2015). One more point is that the learners had to listen to the audios in the classroom and they actually listened to the oral presentation of the written language. But what if some or even the most of the learners were fond of listening to purely audio genres only such as interviews or dialogues, and not of the oral presentation of the written texts?

2.3. Listening to Podcasts and Incidental Vocabulary Acquisition

Podcasts (a blend word of "ipod" and "broadcast") have been gaining a lot of fame in an EFL context (Hasan & Hoon, 2013; Hasan & Tan, 2017; O Byran & Hegelheimer, 2007; Sze, 2006) It is a CALL tool that can be both audio and video with animated images or real people. In contrast to videos, their content can be decoded without the images and they differ

from radio broadcasts 0in the way that podcast channels are subscribed and contain Real Simple Syndication (RSS) feed that enables a subscription to the favorite podcast creators, and each new episode is notified automatically and downloaded on the gadgets. They can be downloaded as MP3s on phones or MP3 players/iPods or can be played on a computer with no need to download the episode.

Bolliger, Suparakorm and Boggs (2010) proposed the following definition: "Podcasts are recoded audio files that can be integrated in educational and training settings in order to deliver personalized content to learners in a specific course during a given semester." (p. 714). They are audio, enhanced and video (Bolloger et al., 2010) being recorded for instructional purposes in many subject areas including teaching English (eslpod.com) and for native-speakers as another streaming media (Hubbard, 2017).

Podcasts are in the phase of gaining more and more popularity (The infinite dial, 2020). There are approximately 155 million people in the US who have listened to podcasts in 2020, the majority being 12-34 year-old listeners who since 2017 have listened to them the most in 2020-27% in 2017, 34% in 2018, 42% in 2019 and 49% in 2020. Unfortunately, there is no similar research for the Armenian context but anecdotal data confirms that there are impressively many EFL learners who listen to podcasts within the same age range as it as in the USA.

In regard to their integration into an EFL classroom, podcasts have been evaluated mainly positively. The most positive features they have been characterized with are their versatility time- and space-wise (Hasan & Hoon, 2013; Yeh, 2013). They, furthermore, increase learners' independence and motivation (Huckin and Coady, 1999; Yeh, 2013). Listening skills (Artyushina, 2011; Ducate & Lomicka, 2009; Hasan & Tan, 2017; Huckin & Coady, 1999; Yeh, 2013), pronunciation (Torsani, 2016), vocabulary retention (Zeeland &

Schmitt, 2013) as well as form and grammar recognition (Zeeland and Schmitt, 2013) are other positive effects that listening to podcasts may have on.

2.4 Studies on Incidental Vocabulary Learning and Extensive Listening to Podcasts

Reading has been one of the most popular means for the incidental vocabulary acquisition among non-native language learners. Reading, more specifically extensive reading "can be the source of initial knowledge of words… can help to expand the knowledge …. Or it can reinforce the memory of words…" (Laufer, 2003, p. 583).

But what about listening for pleasure, that is extensive listening to podcasts and its effect on incidental vocabulary acquisition? Extensive listening is certainly another meaningful input for vocabulary acquisition (Krashen, 1981; Laufer, 2003; Nation & Meara, 2002 as cited in Sanches & Schmitt, 2010). It is also characterized with a "low unknown vocabulary load, quantity of input and some deliberate attention to the vocabulary" (Nation & Meara, 2010: 39).

There has been some, yet little research, on the topic. In a primary study by Mechraoui, Mechraoui, and Raffeeq (2015) 17 Thai students from the experimental group at the pre-intermediate proficiency level managed to show better results in the vocabulary test after listening to podcasts than the control group of 17 students that had a conventional teaching with the textbook and CD players included in the book. Despite the fact that the pre-test showed no significant difference in the vocabulary knowledge (p=0.36) the paired-samples t-test pointed out that the significance value was really low (p= 0.0309), that is the experimental group acquired more incidental vocabulary due to listening to podcasts. The little gains were grounded with the time constraint and no prior information about the tests. As a conclusion, it was assumed that if the students had been more accustomed to using podcasts and listened to more of them apart from the assigned ones, the results could have been better (Mechraoui et al., 2015).

However, the research is full of unanswered questions which are essential to evaluate the research findings in terms of their reliability and validity. It is vague if the podcasts' vocabulary was in accordance with the learners' vocabulary size, if the students' vocabulary size was measured or not, if the podcasts' were easy to perceive or if they were related to the coursebook and its units in a way or not. Additionally, there is no information about the tests and what vocabulary was included or which was the principle for including the exact vocabulary into the tests.

Another primary study is the one carried out by Vidal (2003) in an ESP contest for 116 university students in Spain for four weeks. The researcher chose four recorded lectures that were connected to the students' profession and shared with them. The results showed that the students both gained new vocabulary (M=30.41) and retained it (M=16.14). The instrument to measure the progress were pre-test, post-test and delayed tests.

As a continuation of the first research, Vidal (2011) did the next one again in the university context and this time with 260 students of different proficiency levels. The aim was to see what students benefited the most-from the academic reading or academic listening. For that she had three groups of participants: the first one read academic texts, the second listened to academic lectures and the third group got no treatment. The results showed that the students acquired the most vocabulary by reading.

What deserves due attention is the audio-visual input which can be defined as video podcasts in their form. But are they true podcasts? Podcasts are distinguished with a RSS feed feature (Bolloger et al., 2010) which was not implemented in those two studies. Another feature is that video podcasts can be understood without images and extra-linguistic reality. In this regard, no answer was possible to acquire what role the extra-linguistic reality and watching the lecturers played in the vocabulary acquisition process as the research did not chase a similar goal. It is not a secret, nevertheless, that the extra-linguistic reality is of help

for a lecture comprehension (Fortanet-Go'mez & Ruiz-Madrid, 2014; Paltridge, 2006) which, in its turn, impacts vocabulary acquisition (Pencillar-Sanchez & Schmitt, 2010).

To proceed with, the lectures and the academic texts were identical in form, were developed from similar sources and contained similar vocabulary (Vidal, 2011) with only one difference that the definitions or elaborations in lectures followed rhetorical questions which was not the case in academic texts (Vidal, 2011). The justification was that the lectures were read and pre-prepared, hence could be described with "elaborate grammatical structure" (Biber, 1989 as cited in Vidal, 2011: 228).

The question that arises is how authentic the input is when being delivered as the same form for two different genres? Lectures are described as an "oral genre" in academic discourse (Fortanet-Gomez & Bellés-Fortuño, 2005; Thompson, 1994) and their difference from academic texts is not only grammar structures but also the moves, para- and extra-linguistic features (Hymes, 1972; Malavska, 2016; Swales, 1990) the setting in which it is delivered and the language features that are incorporated into their delivery such as an abundance of questions both teacher- and student asked such as "display questions, referential questions, retrospective questions, self-answered questions, questions seeking explanation, questions seeking confirmation" (Milne & Garcia, 2013: 134), etc.

Academic texts, in their turn, have their specificities as a written academic genre at both language and discourse levels, hence it is not easy to believe that in case of having a similar form, the input becomes the same, and even if it does, are the two manners or channels of input delivery authentic?

The answers to these questions are vital, otherwise, there is a room for the assumption that the conditions for both groups were not controlled identically, hence the genre that was authentic might have led to more vocabulary gains than the genre that had been believed to be authentic. In this case, it is the texts and not lectures as lectures, even the

ones delivered in the reading style (quite rare nowadays) were deprived of the-genre-specific features in order to become similar to academic texts.

Gholami and Mohammadi (2015) in their work also focused on vocabulary learning and podcasting with a difference of having a podcast creation as an objective of investigation as well. The first experimental group of the Iranian students was required to listen to the podcasts and create their own podcasts after some explicit teaching and then comment on the peers' podcasts. The second experimental group listened to the podcasts only whereas the control group had conventional listening activities. The results were in agreement with the ones provided for incidental vocabulary learning: the students who had an active integration into the classroom and outside scored pretty high in the post-test.

However, there is a logical response to the question of why there is a scarcity of the research on how listening to the authentically oral genre of the discourse affects the acquisition of incidental vocabulary. One of the possible answers is that podcasts are not similar to graded readers in terms of the features discussed above. The vast majority of podcasts are for native speakers and not adapted (Meier, 2015), even though there are the ones for instructional purposes mainly being language courses. Other missing features are the vocabulary coverage, repetition, the number of exposures and not being categorized by the proficiency levels (Rosell-Augilar, 2007).

In addition, it is quite hard to do a text profiling because podcasts are usually and basically without transcripts. There is also a need for more exposure to the target vocabulary than in the case of graded readers such as 15-20 occurrences (Vidal, 2003) or even more such as 100 (Zeeland and Schmitt, 2013) as an audio input.

All the disadvantages seem pretty solid to keep researchers away from investigating podcasts in terms of incidental vocabulary acquisition, but only at first sight. Podcasts are an authentic input similar to novels, as such listening to them can be motivating and interesting

(Pencillar-Sanchez & Schmitt, 2010). For the same reason of authenticity podcasts are also sources to gain vocabulary higher than 3000 word level (Pencillar-Sanchez & Schmitt, 2010). However, podcasts are unique in this sense. They are an oral spoken genre, therefore the vocabulary range of 3000 word families is enough to be exposed to similar input (Nation, 2006, 2013) which turns into 6000-7000 word families for episodes with the focus on the academic content. These figures make listening to podcasts more accessible to a wide range of EFL learners.

That uniqueness is also connected to the oral nature of podcasts. As it is known oral genres have their characteristic features which are

> incomplete, simply and loosely organized sentences, simple discourse with less information, use of more general vocabulary, frequent use of fillers, face-to-face communication, negotiation of meaning between two or more people, alternations, corrections, and miscues, as well as memory limitations (Jones, 2005, p. 77).

Thanks to them podcasts claim to be more effective in terms of vocabulary acquisition not only for more proficient learners as it was the case of graded readers (Pencillar-Sanchez & Schmitt, 2010) but also starters because the speech is full of the most frequent vocabulary, simple sentence structures, less overloaded content and repetition (Coombe, Folse & Hubley, 2010; Jones, 2005). Negotiation (Jones, 2005) and para-linguistic features are other contextual features that are assumed to promote guessing and noticing in the current research.

Another feature of podcasts is that the vocabulary can be repeated, and there can be multiple exposures to the same input as an inherent condition for incidental vocabulary learning (Meier, 2015; Nation & Meara, 2010; Schmitt, 2000). Students can replay the whole episode or parts of it as many times as it is desired. In addition, the features of correcting errors, discontinuing the speech and restarting it anew are guarantees that the vocabulary can be repeated for multiple times.

Moreover, podcasts, particularly the ones for native speakers, are free of charge in comparison to graded readers and can be huge in their quantity as input necessary for the learning through extensive listening. As input for extensive listening podcasts are affordable to both teachers and EFL students: the teachers have multiple channels to choose from and spice up the topics for the same students, while the students have an option to choose a channel that interests them the most.

On the whole, there is a huge research gap to respond to the question what influence the audio input has on incidental vocabulary acquisition. The research available so far has been into the impact of lectures (Vidal, 2003, 2011) on how the vocabulary is acquired incidentally. No research has been conducted on the extensive listening to podcasts in the genre of informally spoken dialogues or interviews. The popularity of the digital medium demands some research data on how fruitful the input may be in the EFL context.

CHAPTER THREE: METHODOLOGY

To begin with, the research questions to be answered in the current paper are about the overall effect that an authentically oral, non-academic genre of podcasts has on the vocabulary learning, the conditions the vocabulary is applied in as well as the number of exposures to the podcast episodes or some part of theirs. Moreover, learners' attitude to a similar manner of vocabulary acquisition is striven to find out.

To arrive at the responses to the first research questions an experimental research design was considered the most appropriate. Apart from being quite typical of an educational context (Gass, 2015) the sample included in the research could not be a random high-school student. As already clarified, the decent functioning in the spoken informal discourse requires the knowledge of 6000-7000 word families (Pellicer-Sanchez & Schmitt, 2010), and the knowledge of 3000 word families is enough to have 95% coverage (Nation, 2013). Consequently, the students who reached the vocabulary level of 3000 word level were selected in order to have a successful exposure to an authentic audio input, though separation of the sample into a control and experimental group was random.

It is also worth mentioning that because of the little research on the vocabulary acquisition in the similar mode, the contextual features of the audio input were expected to be similar to the ones typical of the written input such as graded readers. Naturally, the specificities of the oral spoken genre were considered as well.

3.1 Educational Context, Participants and Materials

The research was conducted in a private school in Armenia (no name is mentioned as a general principle of protecting the participants' identity) after the permission was given by the school principal, community director and the parents who had been informed about the

project with the help of the community director. The target participants were high-school Armenian students aged 16 to 18. The choice was not random and dependent on the knowledge range pre-set. Similar results were likely to come across in a private school among high-school learners in the Armenian context. The proficiency levels of the students varied from pre-intermediate up to upper intermediate according to the teachers. The coursebooks at use were Focus 3, 4 and 5 (Kay, Jones, Brayshaw, & Trpnell, 2016).

The participation was announced to be voluntary with the awareness that each participant could leave the research project at any time. Being mindful of the mid-terms, quizzes and the overload of high school students and entrance exams, the project lasted for ten weeks. The volunteers were 78 out of which only 32 satisfied the pre-set criterion of participation (9 males and 23 females). The participants were randomly separated into a control group (10 students) and one experimental group (22 students). The commentary about having an unequal distribution was that the control group was for comparison purposes only to gauge whether the learning of the experimental group was due to the input or not, whereas within the experimental group the wide range of pattern behavior was crucial, hence in the experimental group 22 students were included.

In the experimental group the students listened to the weekly episode, filled in their Digital listening journals and took part in weekly 30-minute meetings. In contrast, the control group students were exposed to no episodes and did their regular classes only which included listening to the coursebook passages, completing extra-curricular projects such as summarizing TED Talks, etc.

To provide more details about the experimental group, the subjects were assigned to listen to one podcast weekly with the topic of sustainability from different angles and with different tips and tricks (See Appendix A). The episodes were in no connection with their

coursebooks. They were introduced as an extra-curricular activity. As a demand by the directors to overload the students with the least, episodes with an average of 40 minutes were selected, though at times they were longer up to 57 minutes but not shorter than 40. Overall the students were exposed to 331 minutes 45 seconds of extensive listening for seven weeks (See Appendix A).

The average number of tokens in each episode was approximately 8000. They all were taken from the same podcast channel "Good Together" where two co-hosts would discuss a topic on sustainability with a guest speaker or each other. The genres of the episodes were dialogues or informal interviews with the informative function about sustainability keeping in mind an average listener, hence the language was mainly with the informal and easy-to-grasp vocabulary with the use of key terms that were defined and elaborated on with a more comprehensible vocabulary.

One of the co-hosts was a native English speaker while the other was not though she had advanced vocabulary and communication skills as in some episodes she would communicate alone with the guests who were native speakers of English.

To mention, the choice of only one podcast channel was intentional because listening to the speech of the same speakers on the same topic increases the likelihood of being exposed to a repetitive vocabulary (Nation, 2013; Pellicer-Sanchez & Schmitt, 2010; Webb & Chang, 2015).

As far as the episode transcripts for vocabulary profiling are concerned, they were the hardest and most time-consuming part of the research. The program called "Otter" (https://otter.ai/) was used but still there were some words not recognized by the program. In addition to the desire to reach a 100 % match between a transcript and an episode, each episode was replayed at least five times. The transcripts helped to carry out vocabulary

profiling to understand the vocabulary coverage, word families and levels of vocabulary frequency and concordance.

From the ethical viewpoint, it should be highlighted that the school was quite demanding in terms of personal data confidentiality which was the first requirement to follow strictly before the permission. The personal information in the form of the participants' names, surnames, gender and age was demanded not to publish anywhere and hand anyone. No direct email correspondence with the students was permitted. The weekly episode with the link of the digital listening journal and transcripts were sent through the community director. The weekly meetings were accompanied by different high-school teachers.

To acknowledge, because of the strong maintenance of ethical conditions the launch of the project was delayed for five weeks, however, there was reciprocal consent that personal data protection of teenagers had to be followed with considerable cautiousness and responsibility.

3.2 Instrumentation

With reference to the research being carried out with mixed methods, the instruments applied were both quantitative and qualitative. The quantitative tools were:

1. Ultimate Vocabulary Level pre- and post-Tests (pre- and post-UVLT)
2. Project designed pre- and post-test (pre- and post-PDT) (See Appendix C)
3. Digital listening journals
4. Listening comprehension tests (LCTs) (See Appendix D)
5. Survey (See Appendix F)

The qualitative instruments were:

1. Digital listening journal observation

2. Teacher interviews (See Appendix E)

3.2.1 Pre- and Post- UVLTs

Updated Vocabulary Level Tests were applied at the beginning of the project to pick up the subjects with the predetermined vocabulary level. It was also taken at the end of the project to check the overall vocabulary level growth of the experimental group, as well as to compare whether that growth was noticeable in the comparison-control group. It consisted of five sections, each with ten items from 1000-5000 vocabulary levels. The participants needed to match three words out of six with their definitions. They had 20 minutes to complete the test. The test was taken on a separate day than the project-designed pre- and post-tests but within the same week.

3.2.2 Pre- and Post- Project-Designed Tests (Pre- and Post-PDTs)

3.2.2.1 The Test Design

Initially, it was planned to design a multiple-choice test. For that the transcripts were subject to vocabulary profiling on Compleat Lexical Tutor in order to identify the vocabulary beyond 3000 word level. Then those words were analyzed in terms of their frequency and concordance. The most frequent ones were selected as the key answers in the items. However, the most frequent vocabulary beyond 3000 vocabulary level was not that rich, as a result only 13 items were designed. Based on the interest to investigate whether frequency is a key in incidental vocabulary acquisition or not (Nation and Wang, 1999; Saragi et al., 1978; Webb and Chang, 2015) and the need to offer distracters from the already profiled texts, less frequent lexical units were chosen.

The aim of the concordance, accordingly, was to identify which part of speech of the same lexical form was more frequent. It was valuable for the choice of the distracters in the multiple-choice items. It helped to make consistent choices in each item.

As a result, 13 multiple-choice questions were designed each of one-point value. The stems were made up but were related to the topic of sustainability. They contained the vocabulary within 1000-3000 word level so that the students did not face any comprehension problems.

The distracters and the key answers, in their turn, were all taken from the episodes. However, they were beyond the 3000 word level with the intention to check whether the vocabulary was specifically acquired from the episodes and was unfamiliar to the students beforehand as it was done in a number of similar studies with the reading input (Pellicer-Sanchez & Schmitt, 2010; Pitts, White & Krashen, 1989; Saragi et al., 1978). Each item contained three distracters, one key answer and "don't know" option to avoid random guessing. The keys and the distracters were with their transcripts so that even if the spelling was unfamiliar, its pronunciation guided the participants to make the correct choice bearing in mind that the input was audio, and the students might recognize the word with its pronunciation only and not necessarily with the spelling. During the testing each student was approached constantly to be explained about "don't know" option and be encouraged to choose that option if the answer was unknown.

Nevertheless, multiple-choice questions have their uniqueness in terms of giving correct answers. As mentioned by Paul et al. (1990, as cited in Nation, 2013), learners apply a number of strategies to tick the correct answer which are "knowing the answer, association, elimination, position of the options, readability of the options and guessing." (p. 542). Out of all the strategies guessing was possible to exclude from the test with the help of "don't know"

option, but the rest would inhibit the understanding of the students' knowledge about the distracters because they had already been included in the multiple-choice test.

As a solution to check the sample knowledge of the distracters, the second section of the test was developed that was taken after the first section was handed out to the proctors. It consisted of the distracters only in which the students were asked to explain the meaning of each lexical unit in English or in Armenian within 20 minutes, for each correct answer being scored with 1 point, for a close or somehow close answer, 0.5 and contextually incorrect answer 0. The constituents of the collocations were introduced as single words for each 1 point whereas "greenhouse gas" was included as a phrase with 1 point of a value. All the items were with small initial letters (though still with the transcripts) including the shop names to avoid delivering any prompts for the recognition of the shop names.

3.2.2.2 The Vocabulary in the PDT

In the target vocabulary there were 54 lexical units included out of which 51 were single words, two noun phrases consisting of two decomposable constituent elements (capsule wardrobe and greenhouse gas) and two fully compositional phrases/collocations to be consistent with the key in the item. The frequency and distributions of those compositional phrase/collocations were calculated separately as single words. Another decomposable phrase was a shop name that led to the choice of other shop names as distracters. To remind, in the test all the single words and phrases were applied with the same meanings they had originally been expressed in the input.

The homogeneity of the options for the single words was provided with the help of similar part of speech belongingness and shared grammatical features. In the case of phrases, the distracters were chosen and made up in agreement with the key in the item. It means that the phrases with two constituent elements having an Adj+Noun structure were formed. Of

course, the reason behind this choice of phrases was a spark of interest in how phrases can be acquired incidentally from the audio input which might serve as a basis for further research. Also, some of the phrases were key notions in the topic of sustainability, hence were quite frequent which is a condition of the research interest. And finally, the formation of those compositional collocations was not supposed to be of a great deal because for students, who were expected not to know the phrases, having phrases with an Adj+Noun structure was enough to provide consistency or homogeneity among the options.

The vocabulary units were separated into the frequency categories (Pellicer-Sanches & Schmitt, 2010). The original classification underwent some modifications to satisfy the frequency occurrence of the target vocabulary in the current input: 1-4 occurrences, 5-8 occurrences, 10-17 occurrences and 28 or more (See Appendix C). Similar modifications were made for the distribution of the vocabulary across the episodes to adapt to the vocabulary included in the current research: 1, 2, 3, 4 and 5, 6, 7 (Pellicer-Sanches & Schmitt, 2010).

3.2.3 Digital Listening Journals

Within seven weeks the students were asked to fill in the structured-prompted digital listening journal. There were five questions preceded with the detailed description of what they were supposed to do. They were filled in individually and sent before weekly meetings. The questions included there were the following:

1. What did you like about the episode?

2. What didn't you like about the episode?

3. Which was the most practical tip in your opinion?

4. How many times have you listened to/replayed the whole episode?

5. How much time did you spend on listening to and understanding the episode on average?

The prompts were both in English and Armenian with their detailed description of what to do during weekly meetings. They were all open-ended questions with the last one requiring accurate figures mostly.

The journals (Meier, 2015) performed the function of acquiring the information on the exposure to the input, as well as of applying the input language within a long period of incidental vocabulary acquisition (Webb & Chang, 2015). In addition, the weekly Digital listening journal observations assisted in understanding how motivated and how interested the students were in the topics of the episodes and the project in general which are of a huge support in extensive listening (Nation, 2013).

Moreover, the journals helped to eliminate some factors which could have influenced the students' degree of interest or motivation negatively by demotivating them and making the journey unpleasant. Similar examples were the accent of the host or the promotions. Due to the explanation of the importance of tolerance to foreign accents and the significance of the exposure to the authentic input in their lives as future students, the accent stopped bothering them from the second episode. The same worked with the advertisements.

3.2.4 Listening Comprehension Tests

During the weekly meetings the students were given listening tests that consisted of five multiple-choice questions. The first one was about the gist of the episode and the last four on the details, which were mainly practical tips. For the test, they were given six minutes. In this fashion, the episode difficulty was controlled as a factor that might have a negative effect on the vocabulary acquisition (Pellicer-Sanchz & Schmitt, 2012; Schmitt,

2008). The tests had been piloted with three students with the same vocabulary level within the project to check the test reliability and validity. The means for each test were introduced in Table 1.

3.2.5 Survey and Teacher Interview

The survey was conducted in the last week. It consisted of 13 questions and one request to add any idea that they thought might be important but had not been included in the survey. The survey skeleton was borrowed from Pellicer-Sanchez and Schmitt (2010) but was modified to the

Table 1

Descriptive statistics for the Piloted Listening Comprehension Tests

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7
Valid	3	3	3	3	3	3	3
Mean	40	36.67	43.33	43.33	36.67	40	40
Std. Deviation	10	11.55	11.55	5.77	11.55	10	10
Minimum	30	30	30	40	30	30	30
Maximum	50	50	50	50	50	50	50

needs of the current research. The survey was conducted online within 15 minutes. The goal of the survey was to have an overall image of the participants' attitude to the project, listening input, the self-assessment of their vocabulary growth apart from the test results, their strategy applications and some instances of vocabulary they were sure they learnt.

As for the teacher interview, it was conducted with five high-school teachers. Its aim was to understand what the teachers had taught in terms of vocabulary to the participants within those seven weeks. The questions were four in quantity with three being open-ended and one- close-ended. They were structured. The teachers' answers helped to explain why the gains, if any, happened in the control group.

3.3 Procedures: The Steps for Data Collection

The research lasted for ten weeks out of which the first and the last two were spent on testing. The tests were taken within the same weeks but on different days. The pre- and post-UVLTs were taken first and were followed with pre- and post- PDTs that consisted of two sections. After section one, the tests were collected and the students were given a six-minute break. After the break, section two was started.

Listening to the podcast episodes lasted for seven weeks. Apart from the tests there were weekly meetings and dialogue journal analysis. Particular attention, however, should be drawn to weekly meetings which played a huge role in controlling the project, motivating the students, diminishing some factors that could have interfered with the project results and creating closer interpersonal bonds with the subjects which, to some extent, led to the high degree of participation as no one left the project till its end.

3.4 Data Analysis

To answer RQ 1 there was a descriptive statistical analysis of the pre- and post-UVLT results and the analysis of the project designed pre- and post test results. The results were collected from both the experimental and control groups. Afterwards, both paired- and independent t-test, as well as Wilcoxon analyses were conducted to understand whether the differences in the results were that significant to claim that listening to podcasts extensively was effective for incidental vocabulary learning.

The second question was answered with the support of correlation analysis, more specifically the calculation of Spearman's rho. The calculation was made thanks to the data on the number of exposures to the whole episodes and the relative gains of the PDTs.

The answers to the third and fourth assumed the usage of Spearman rho (Webb & Chang, 2015), where the gain of each word was observed in the pre- and post- PDTs. A

one-way analysis of variance was also carried out to track what impact the categories had on the learning process.

The final question relied on coding and pattern analysis with the intention to quantify the patterns to grasp a better perception about the attitudes of the target sample on the use of the input under investigation for the purpose of English vocabulary acquisition.

CHAPTER FOUR: RESULTS

This chapter is about the results acquired with the implementation of both quantitative and qualitative instruments and statistical analyses that followed the data obtained with those instruments. The results are introduced according to the order of the research questions already discussed in the Introduction.

4.1 The Relationship between Listening to Podcasts and Incidental Vocabulary Acquisition

4.1.1 Pre- and Post-PDT results

As described in the Methodology chapter, the selection of the participants was based on the pre-UVLT results- the students with the 3000 word level knowledge were included in the research only. After that, they were separated randomly into the experimental and control groups and assigned to the pre- PDT. The results acquired from the independent t-test did not show statistically significant differences ($p = .686$) in the pre-test results as shown in Table 2. However, the difference was statistically significant for the post-PDT results ($p< .001$).

Table 2

Independent Samples T-Test in the Experimental and Control Groups for the PDT

	T	df	P	Mean Difference	SE Difference
Pre- PDT	-0.408	30	0.686	-0.445	1.091
Post-PDT	-10.285	30	< .001	-19.986	1.943

Note. The test scales from 0 to 54

The results were quite natural as the participants were selected with the similar

vocabulary level who, logically, would show the same behavior during the test and give

somehow similar answers. The post-PDT results indicated that due to the experimental

group's exposure to the extensive listening, the experimental group reached a significant

vocabulary growth within the target vocabulary which brought to the noticeable differences

between the groups after the research project. The input being the most likely source of the

vocabulary acquisition for the experimental group was illustrated with the post- PDT

descriptive statistic results included in Table 3. The mean of the experimental group was

28.89 while that of the control group was 8.9.

Table 3

Descriptive Statistics for Vocabulary Learning Gains from Pre- and Post- PDTs for the
Experimental and Control Groups

	Group	Mean	SD	Minimum	Maximum
Pretest	Experimental	11.05	2. 57	8	15
	Control	10.6	3. 44	6	16
Post-test	Experimental	28.89	5. 97	20	39
	Control	8.9	1. 85	7	12
Absolute gain (pre to post)	Experimental	33.02	7. 65	22.2	46.2
	Control	-2.203	7. 84	-16.65	9.26
Relative gain (pre to post)	Experimental	41.97	11. 25	26	62.5
	Control	-4.07	11. 56	-23.7	14.4

Note. The test scales from 0 to 54

Apart from independent t-test, the paired t-test (as well as Wilcoxon signed-rank test keeping

the number of the control group in mind) for the control group also revealed that the control

group did not gain any of the lexical units in the test from anywhere else as the difference

between the pre- and post-PDT results was not statistically significant (p = .221). On the

contrary, Table 4 serves as evidence that the experimental group experienced a significant

gain in the target vocabulary (p< .001). The juxtaposition of these results made it indisputable

that the growth in the experimental group was attributable to the audible input with the topic of sustainability and the tips and suggestions made in it to live eco-friendly.

As for more details on the gains of the experimental group, Table 3 was an indicator that the mean score in the experimental group from the pre- PDT was 11.05 out of 54. The score range was from eight to fifteen. After being exposed to 7 episodes within seven weeks the mean score of the experimental group became 28.89 out of 54. It denotes that within those seven weeks the students had gained 17.84 words with 25.11 words being not acquired. As a whole, most students experienced growth which was ranged from 25 to 12 words.

Table 4

Paired Samples T-Test of the Post- PDT for the Experimental and Control Groups

Groups	T	Df	P	Wilcoxon
Experimental	20.22	21	< .001	< .001
Control	1.316	9	.221	.258

Note. The test scales from 0 to 54

On top of the aforementioned measures, the calculation of the relative mean gain was also made (what for the formula offered by Webb and Chang (2015) was used) because of the noticeable differences in the gains and cumulative nature of vocabulary learning (Nation, 2013). The mean relative gain in the PDT was 41.97 % the gains varying from 26 to 62.5.

In the research special attention was drawn to the comprehension of the episodes. For that purpose a pre-piloted seven listening comprehension tests each with five questions were assigned each week during the weekly meetings. The tests' reliability was measured with a single-test reliability analysis in which Cronbach's alpha was 0.78 which confirmed the high reliability of the test. In addition, if-item dropped was also measured (See Appendix G).

The episodes were proven to be easily grasped and it could be claimed that the factor of the input difficulty as an inhibiting factor was eliminated. Table 5 distinctly points out that approximately 79 % of the answers were correct, on average (if 50= 100%, then 39.5 (the mean of the overall means) = 79 %). The students in the final survey (95.5%) also affirmed that the texts were easy to understand and contained a decent amount of unfamiliar vocabulary.

Table 5

`*Descriptive Statistics for the LCTs Per Week*

	Week1	Week2	Week3	Week4	Week5	Week6	Week7
Valid	22	22	22	22	22	22	22
Missing	0	0	0	0	0	0	0
Mean	38.6	39.09	40.46	38.18	40	38.63	41.82
Std. Deviation	7.10	6.83	7.85	7.33	6.90	7.10	7.33

Note. The test scales from 0 to 50

4.1.2 Pre- and Post- UVLT Results

As an extension to the pre- and post- PDT results, a t-test (as well as Wilcoxon signed-rank test because of the sample size in the control group) was also conducted for the pre- and post- UVLT results because there was a genuine interest in what impact the audio input could have on the vocabulary at the pre- set levels. The word levels were from 1000 to 5000. To add, the pre- PDT result differences in the independent t-test between the groups were not statistically significant but were in the post- PDT (See Appendix H).

The figures in Table 6 show that apart from the vocabulary targeted to measure, there was vocabulary learning at all the other levels too in the experimental group which emphasized the convenience of the genre for the overall vocabulary growth. The episodes were easy to comprehend, without the abundance of unfamiliar vocabulary and with a nice balance between the most and less frequent vocabulary.

On the contrary, the control group had experienced growth at the 4000 and 5000 word levels only. Teacher interviews explained that the gains at those vocabulary levels were connected to the type of learning the participants had at high school within those seven weeks, that is mainly reading and writing.

4. 2 The Relationship between the Amount of Time Spent on Listening to Podcasts and Incidental Vocabulary Acquisition

The relationship between the amount of time spent on the extensive listening to podcasts was quantified with the responses in the dialogue journals. In its turn, incidental vocabulary learning was measured with the relative gains from the pre- to post- PDTs using the formula by Webb and Chang (2015). Spearman's rho was implemented because the number of exposures per student was not normally distributed.

As the analysis conveyed that there was a correlation between the two variables ($p = .021$) and it was negative ($r= -.487$).

Table 6

Paired Samples T-Test results for the UVLT Test in the Experimental and Control Groups

UVLT pretest	UVLT post-test	Groups	**T**	**df**	**p**	**Wilcoxon**	**Cohen's d**
UVLT pretest 1000	UVLT post-test 1000	Experimental	2.45	21	0.023	0.048	-0.523
		Control	2.01	9	0.075	0.100	0.636
	UVLT post-test 2000	Experimental	2.82	21	0.010	0.018	-0.602
UVLT pretest 2000		Control	0.95	9	0.366	0.586	0.301

UVLT pretest 3000	UVLT post-test 3000	Experimental	-5.16	21	< .001	< .001	-1.101
		Control	1.43	9	0.187	0.036	0.451
UVLT pretest 4000	UVLT post-test 4000	Experimental	-2.68	21	0.014	0.022	-0.571
		Control	2.77	9	0.022	0.036	0.876
UVLT pre-test 5000	UVLT post-test 5000	Experimental	-3.21	21	0.004	0.004	-0.685
		Control	2.94	9	0.016	0.036	0.931

4. 3 The Relationship between the Frequency of Occurrence of the Target Vocabulary in the Episodes and Incidental Vocabulary Learning

Before answering the question if there was a statistically significant correlation between a relative vocabulary gain and frequency of the vocabulary, a one-way analysis of variance was carried out to discern if the categories of the frequency were impactful for the gains or not. The analysis showed that the role of the factor was statistically significant as $F (4, 54) = 3. 167, p = .032$.

Afterwards, the relative gain for each word was measured because some of them had been recognized in the pre- PDT. This step was followed with the correlation analysis of the frequency of occurrence of each word and the relative gain of each word within the category of the frequency of occurrence (using the formula by Webb and Chang, 2015). The correlation was proved to be statistically significant- $r = .346, p = .01$. Having said that, it was also detectable that the correlation was not strong which was expected because of the recognition of some of the most frequent lexical units included in the PDTs.

As indicated in Table 7, the effect of frequency became the most noticeable when it reached from 10 to 17 as the gains, compared to the ones within the first two categories, was double. The same was maintained for category four which was still twice more in terms of the relative gain than it was for the first two cases. Figure 1 makes the degrees of relative gains more visible and clear.

4.4 The Relationship between the Distribution of the Target Vocabulary across the Episodes and Incidental Vocabulary Learning

The response to this research question required the analysis similar to the previous one. With the help of a one-way analysis of variance the categories of distribution were found out to be statistically significant for the relative gains of the target vocabulary- F (5, 54) = 3.167, p= .032.

Table 7

Frequency of Occurrence and Relative Gain

Frequency of occurrence	Number of words	Mean of relative gain from pre to post-test	Mean of absolute gain from pre to post-test
1-4 (Category 1)	21	32.7	27.8
5-8 (Category 2)	12	33.1	27.9
10-17 (Category 3)	14	65.3	33.7
28 and more (Category 4)	7	78.6	37.4

Figure 1

Mean Relative Gains for the Frequency of Occurrence (from Pre- to Post- PDT)
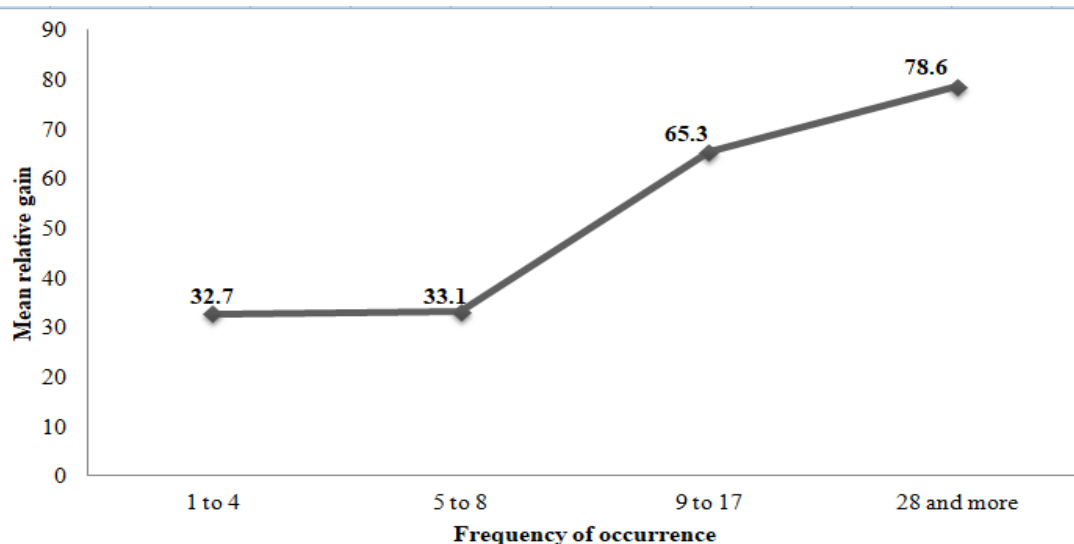
The correlation analysis with the calculation of Spearman's rho still revealed that distribution was statistically significant in the relative vocabulary gain ($r =. 387$, $p = .004$). Similar to the frequency of the target vocabulary, the correlation was not strong here either which was explained with the same reason, i. e. some of the vocabulary with the higher distribution had been recognized by the sample.

Nevertheless, it must be mentioned that although the distribution seemed to impact the gains quite gradually from distribution one to two and four up to five, six and seven, it dramatically dropped from distribution two up to three (further interviewing with the participants would be needed to understand why the acquisition of those lexical units took that path) and increased in the same drastic amount to distribution four as shown in Table 8. In addition, the relative gain from distribution one and two increased almost twice in distribution 4 and 5, 6 and 7. Figure 2 clearly indicated how huge the gains were dependent on the distribution of occurrence across the episodes.

As an extra step, the relationship between frequency and distribution for the vocabulary gains of 54 lexical units was analyzed with the response that their correlation was

statistically significant ($r= .566, p < .001$). Naturally, there were words that were not acquired at all or the words that were known to the majority and showed no gains, however, there were lexical units with a tremendous gain by not being known by anyone initially but being gained by the most in the end. Similar examples were "Sheets and Giggles", "capsule wardrobe," "offset," or "transparency."

The survey results also pinpointed that due to the repetitive nature of the vocabulary, the learning of the new words would require no effort from the participants, but would happen automatically (63.6%). The repetition was a leading path to the learning.

Table 8

Mean of Relative Gains on the Pre-to Post Test According to the Distribution of Analysis

Distribution across episodes	Number of words	Mean of relative gain from pre- to post- PDT	Mean of absolute gain from pre to post- PDT
1 (Category 1)	18	30.5	26.11
2 (Category 2)	13	35.2	28.4
3 (Category 3)	4	8.1	6.25
4 (Category 4)	14	51.26	43.57
5, 6 and 7 (Category 5)	5	60.87	28

Figure 2

Mean Relative Gains for the Distribution of Occurrence (from Pre- to Post- PDT)
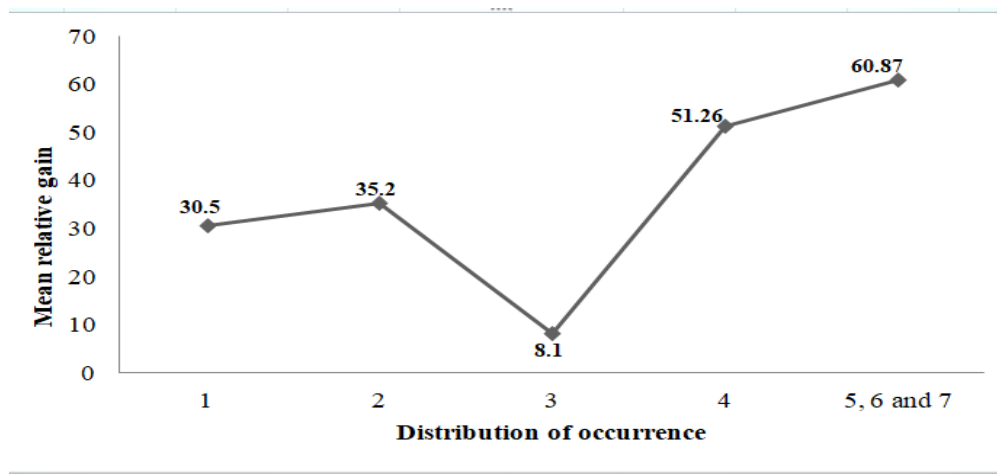
4. 5 Participants' Attitude to Vocabulary Acquisition via Podcasts

The participants truly enjoyed the project (100%) and listened to all the episodes (100%). There was a unanimous interest (100 %) in the topics of the episodes and a high level of motivation (100 %). In some cases, the interest in the topics was the motor to look up for each word and to keep listening till the end of each episode. Of course, they would still prefer reading as a source to enrich their vocabulary (80 %), they appreciated its value in their vocabulary growth and improvement of listening skills (95 %). There was consent that reading was beneficial for visualizing a word with its spelling, as well as it was an already-developed habit however, learning words from listening would give a chance to hear its correct pronunciation and notice its use in an authentic context (22.7 %). As a result, the most confirmed that they would continue listening to podcasts for learning more words (72.7 %), particularly.

Besides the interest in the topic, the motivation did not decrease due to the easiness of an episode comprehension (100 %). The major reasons were the decent number of unfamiliar words (86 %), the structured nature of the genres (18 %), the contextually rich explanations (36%), the repetition of the vocabulary (63.6%) and humor (18%). Even for the ones (13 %) who mentioned facing relatively many unfamiliar words, felt that their number was gradually

reduced which was explained with being more accustomed to listening to the authentic speech, improving their listening skills, as well as a weekly exposure to the episodes when the previously acquired vocabulary from the preceding episodes happened to be repeated in the upcoming episode. It created a basis for memorizing the vocabulary better.

Undeniably, the most common downside of podcasts was mentioned to be their length (45.5 %). It was hard for the participants to listen to that long input each week in parallel to their regular classes. They highlighted that if they had not had their classes (if the project had been arranged in the summer, e.g.), they would have spent more time on vocabulary learning (72.7%). However, due to the interest in the topic and their high level of motivation (86 %) into the project participation, they ignored the factor of the length and spent as much time as it was necessary for the better perception of the episodes.

It should also be mentioned that the research did not target the vocabulary beyond 3000 word level but there was also the learning of that vocabulary as some words were mentioned as newly- learned words by the sample such as "sustainable,", "emission," frequently," "conscious consumer," etc.

Figure 3

Survey Responses
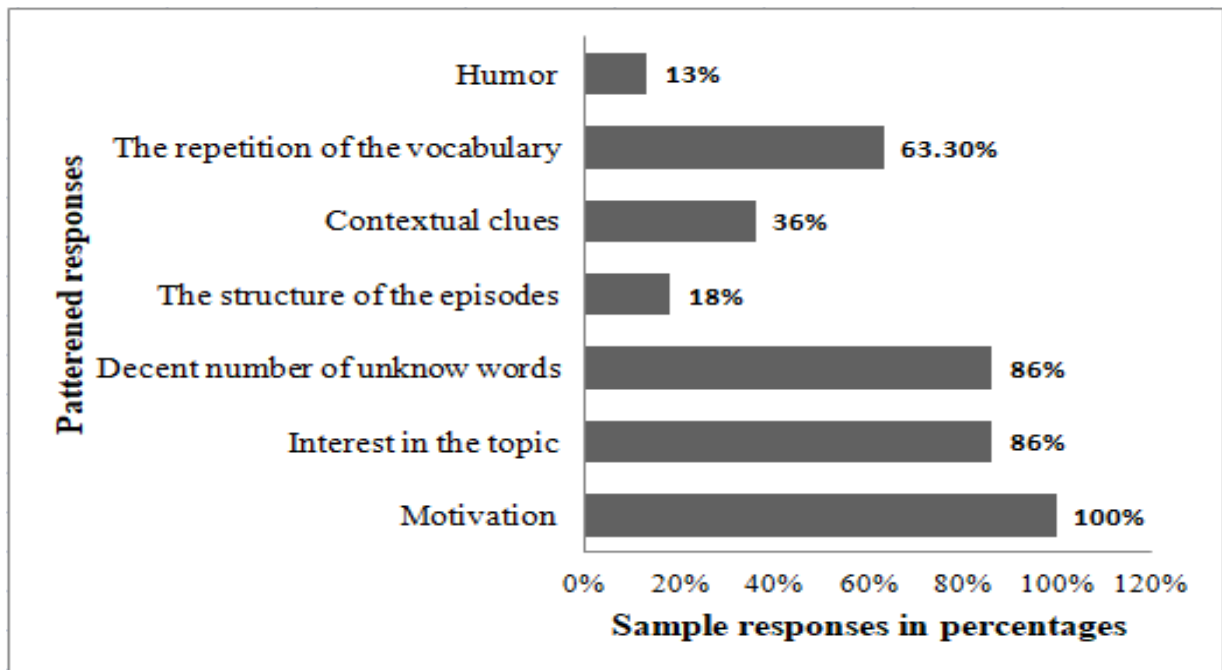
CHAPTER FIVE: DISCUSSION AND CONCLUSION

5.1 Discussion

As shown in the Results' section extensive listening to podcasts was an effective input

for incidental vocabulary acquisition. The experimental group that scored 11.045 on average

in the pre-PDT showed a twice more growth in their vocabulary gain on average ($M =$

28.886). It means that within seven weeks the students acquired 17.84 lexical units (33%) with 25.11 ones remaining not acquired out of 54 lexical units. The mean relative gain for each student was 41.97% on average. This figure was genuinely remarkable if the gains from reading-while-listening had been 19.68 words (19.68%) within thirteen weeks (Webb & Chang, 2015).

It goes without saying that the gains were dramatically huge in the research by Vidal (2003) which were equal to 84.5% (30.41 out of 36 vocabulary items). Nevertheless, it should not be ignored that in her research the duration of the exposure to the input was shorter and the input itself was not long either (14-15 minutes).

The positive impact of listening to podcasts on incidental vocabulary learning was also confirmed by Gholami & Mohammadi (2015) and Mechraoui et al. (2015), however, the papers did not include any figures on the vocabulary gains in figures.

Overall, the genre was evaluated to be positive for incidental vocabulary learning within seven weeks. Certainly, there could have been some forgetting of the vocabulary from the first episodes till the end of the project (Webb & Chang, 2015), but as the students mentioned, the repetitive nature of the vocabulary across the episodes enhanced their memorization to a decent extent (63.3%) even when it seemed hard in the beginning (13 %). Even more, apart from single words there was a huge learning of some phrases such as "Sheets and Giggles" (no students knew it in the pre-PDT whereas all of the students acquired it in the end), "capsule wardrobe" (3 students had recognized it whereas the number reached 19 in the post-PDT). In contrast, "greenhouse gas" had been identified by 5 in the pre- test while only three marked it correct in the end.

Another point to focus attention is the recognition of some of the lexical items at the pre-PDT. The assumption was that the gains could have been greater if no vocabulary had

been identified. Nevertheless, the nature of less frequent vocabulary and the richness of the

most frequent vocabulary in the oral genre of podcasts measured with vocabulary profiling

prompted the least likelihood to design a test with a completely unfamiliar vocabulary. Also,

the recognition of some vocabulary was motivating for the volunteers (Webb & Chang,

2015).

It is also worth highlighting that the acquisition of more vocabulary within the range

of the first, second and third thousand word levels did also occur pointed out with the UVLT

post results and the participants' survey responses. Similar examples were "sustainable,"

"emission," frequently," "conscious consumer," etc. Sadly enough, no vocabulary within the

levels had been included in the PDTs.

The amount of time spent on listening to podcasts was also pointed out to be crucial in

the gains of the incidental vocabulary as a response to the second research question. The

correlation was statistically significant ($p = .021$) and of medium strength and negative ($r= -.

487$) which came to show that the students with the lowest scores performed the habit of

listening to the episodes more than the students with the higher scores.

However, the correlation was of medium strength which was reasoned with the choice

of the episodes: they were easy to comprehend (100% (survey results) and 79% of correct

answers on average at the LCTs). The same was about the number of unfamiliar words which

was decent in the opinion of the most (86%).

For the ones that had difficulties with the comprehension and spent comparatively

more time at first, mentioned that the difficulty of the episodes was noticeable in the

beginning when listening to the authentic speech was a new experience and the vocabulary

was quite new (10%). However, the barriers disappeared due to the repetitive nature of the

vocabulary and experience of being exposed to the authentically foreign input as mentioned in the survey responses.

Another point to remember is that the sample was selected with 3000 vocabulary level to deal with the listening input quite easily (Nation, 2013), therefore it was not surprising not to come across a drastically different behavior among the participants, as well as a huge temporal exposure to the input, especially when the length of the episodes and the impossibility to speed up the episodes (45.5% according to the survey) was marked as a downside of the input.

Also, it should be reminded that the number of the lexical items was decent but not huge which was connected with the nature of the genres and infrequent vocabulary, as well as the fact that some of the vocabulary had been identified by the sample in the pre- PDT. So their gain was not possible to measure, either.

The answer to the third research question was positive, namely the frequency of the vocabulary played a significant role in the acquisition of the vocabulary which was not fixed by Webb & Chang (2015) in their audio-supported reading research with the explanation that due to the length of the project (thirteen weeks), there might have been forgetting, because the frequency is interrelated to short-term memory. However, the results in this research corroborated the findings by Horst, Cobb & Meara (1998), Pellicer-Sanchez & Schmitt (2010) -and Vidal (2011). Indeed, the correlation was statistically significant (p= .01) but not strong (r= .346). The scale of the strength was connected with the number of the lexical items and the recognition of some of the lexical items in the pre- PDT. The most frequent lexical units that had been recognized in the pre- PDT were "awesome" (22 students), "mindset" (21 students), "hacks" (13 students), etc. In parallel, there were two lexical units such as "Sheets and Giggles" and "ethical" that showed 100% recognition in the post- PDT.

The difference between 1-4 frequency and 5-8 frequency categories the relative gains were found to be little (M_{1-4}=32.7 and M_{5-8}= 33.1). However, the impact of the frequency became huge from the frequency of 5-4 up to 10-17 frequency words (M_{5-8}= 33.1 and M_{10-17}= 65.3). The figures showed that gain increased twice. The relative gains increased for 28 and more occurrences compared to 10-17 frequency as well (M_{10-17}= 65.3 and M_{28+}= 78.6). As a consequence, the factor of frequency becomes of a considerable effect when it reaches 10-17 and 28 and more. The findings were quite similar to those by Pellicer-Sanchez & Schmitt (2010).

In essence, the acquisition of the vocabulary happened at all the levels with the frequency of 1-4, 5-8, 10-17 and 28+ (Laufer, 2013; Nation & Wang, 1999; Rott, 1999; Waring & Takaki, 2003; Webb, 2007) but the gains significantly increased with the lexical units at the frequency of 10+ and 28+ (Pellicer-Sanchez & Schmitt, 2010; Waring and Takaki, 2003). It might be concluded that the frequency matters for greater gains and the idea that no fixed number of repetition guarantees learning (Nation & Wang, 1999) should be questioned.

The same held true for the distribution of the vocabulary across the episodes (r = .387, p=0.004). The strength of the correlation was also reasoned with the same explanation as it was in the case of the vocabulary frequency, i.e. the number of the lexical items and the recognition of some of them in the pre- PDT.

Unfortunately, there has not been enough research on the concept of distribution as another form of repetition. The majority have been about the frequency as a manifestation of repetition, and so far the results have not been positive as it was the case in the research by Webb and Chang (2015) who found no correlation between the vocabulary distribution across the texts and incidental vocabulary acquisition. It was bound with the imbalanced vocabulary distribution, the difference of the genres for the selected books, etc. In the current

paper, those limitations had been considered, and the students had been exposed to the audio input with similar genres.

Consequently, the vocabulary with the highest distribution showed huge gains, similar words being "transparency" whose overall frequency was 6, but the frequency in each episode was quite low (1 in episode 2, 1 in episode 3, 1 in episode 4, 1 in episode 6, 2 in episode 7) but the distribution was high- it came across in 5 episodes from episode 1 to episode 7. The relative gain of the word within the category of distribution was 300 %. Another word was "takeaway" that came across in four episodes (episodes 1, 3, 6 and 7) once in each but brought to 50% relative gain.

As an extra step the correlation between the frequency of the vocabulary occurrence and its distribution across the texts was measured, and the figures showed that the words with the highest frequency and most distribution brought to the highest gains. Similar words were "secondhand" (19.5%), "Sheets and Giggles" (38.9%), "transparency" (27%), "ethical" (20%), "eucalyptus" (29.7%) where the relative gains were measured for the overall number of lexical units.

Finally, the students' attitude to the project and having podcasts as an input for improving both their listening skills and vocabulary was positive (95%). They liked the easiness of the comprehension (100%) and the decent amount of unfamiliar vocabulary (86%) integrated into them. The length of the episodes was mentioned as a downside of the genre (45.5%) but due to their motivation (100%) it did not interfere with the desire to listen to the podcasts till their end.

5.2 Pedagogical Implications

The major goal of the research is to show whether the audio podcasts created for authentic purposes could lead to vocabulary acquisition among high-schools EFL students or

not. The findings showed that podcasts impacted the learning positively and can be of huge benefit for the EFL learners in developing countries due to their least demands in terms of hardware: the Internet access and a cell-phone are enough to be exposed to the input.

However, it took too much time to navigate the whole internet in order to find a podcast channel with an interesting topic and reachable vocabulary that was not too technical, too colloquial or academic. The searching process brought to the idea that it would be of a great use to come up with more instructional podcasts that would be about authentic topics but with an instructional manner of delivery such as slowed-down speed, more pauses, structured genre delivery and the balanced enrichment of vocabulary similar to graded readers. Whatever has been found for instructional purposes was particularly for teaching the grammar or vocabulary of English explicitly which may not be truly authentic or attractive to many EFL learners.

The research findings can be helpful for the creation of similar podcasts where the frequency and the distribution of the vocabulary across the episodes will be considered for the incidental vocabulary acquisition. Even if the vocabulary is not rich in its frequency in one episode then its regular distribution throughout the episodes will be of a huge help to acquire the vocabulary incidentally.

Another implication is to share the results with the teachers so that the teachers start using the medium more actively in their classrooms whenever they feel the learners can cope with authentic input. The findings showed that the time amount spent on the audio input had a significant effect on the outcomes. Therefore, teachers are recommended to either come up with different activities with the same input or develop the habit of listening to two and more podcasts per week which will increase the number of exposures to the same input, which, in its turn, will increase the vocabulary gains.

As a consequence, the integration of podcasts into the learning of vocabulary will make the learning more authentic, confront the needs of auditory learners and develop life-long learners who can use more than one source for their language improvement, especially with the free availability of podcasts.

5.3 Limitations and Delimitations

One of the limitations was the hyper-protection of personal data because of what the number of the episodes was reduced and the direct communication with the students was slowed down and had a negative impact at times.

Another limitation was the recognition of some of the vocabulary included in the pre-PDT. It did not give a possibility to detect the acquisition of some of the most frequent and distributed vocabulary to the extent desired.

As for the delimitations, the age of the students, the school and the experimental design of the research were the primary ones. Finding the right sample was a prerequisite for success in the current research. It was believed that in the Armenian reality high-school students from a private school could show the awareness of the pre- set vocabulary level, which happened in the way pre-planned. Also, having students with the same vocabulary level established a clearer image of whether the learning was due to the project or not.

Another delimitation was the independent variable of incidental vocabulary acquisition. The scope of the research was within how the conditions and context would impact it, namely the context of extensive listening to podcasts, the frequency of the target vocabulary and the distribution of the same vocabulary across the episodes.

Moreover, the diversity of the instruments also helped to create more sensitive testing which has been defined as a limitation in some previous research (Schmitt, 2008). The same was about the vocabulary which was desired to be more in quantity but due to the oral nature of the genres was hard to increase. In contrast, not only single words but also two-worded

phrases were included because so far there has been no research that indicates that the vocabulary acquisition is manifested with single words only.

5.4 Recommendations for Further Research

The research gave birth to a number of new research ideas for the future. One of them is the same research with the retention post- PDT that was impossible to include in the current paper due to fixed duration of the project required by the school authorities. There is also interest in the incidental acquisition of phrases which will fill in the missing gap on the topic.

Another possible research might be selecting the audio input that authentically could come across with a written text as well so that the comparisons between the gains from the same input were both objective and authentic. Apart from that, it is of great interest in the difference of the gains after the treatment of the strategies to work with the audio input.

5.5 Conclusion

In conclusion, the research stressed out how effective extensive listening to podcasts can be for incidental vocabulary acquisition. During seven weeks the students acquired 17.84 lexical items with 11.05 ones being identified in the pre- PDT and with 25.11 vocabulary units remaining unfamiliar among 22 high-school students. Due to the careful selection of the audio input that interests the students, that is easy in terms of comprehension and contains a balanced amount of unfamiliar words, it is possible to arrive at greater results in the incidental vocabulary learning. The input needs to be with the same genres and delivered with the same content creators.

The results can be multiplied if listening to podcasts was developed as a habit for vocabulary acquisition. The students listened to one episode each week, though the results showed that the amount of time spent on podcasts was impactful in terms of the gains. So, the

earlier development of the habit can lead to the point that the students initiate listening to more podcasts weekly, which would, logically, bring to more gains.

Even though the students mentioned that they would stick to the already developed habit of reading books to learn new words (80 %), they still noticed the advantages of learning new vocabulary via podcasts (95%) such as learning the correct pronunciation of the word or its correct usage in the oral context. A question arises whether they would still prefer reading books as a source of new vocabulary if they had already been introduced to the habit of incidental vocabulary learning via podcasts? The question is to the point as for some of the participants the podcasts were discovered due to the research project (18 %) and some audio learners acknowledged (10 %) that they adored listening to podcasts as a medium to acquire new words.

The participants had vocabulary learning strategies (31.8 % used a glossary, 31.8 % looked for the definitions online, 10 % translated the words online and listened to their pronunciation, 10 % did morphological analysis) which were taught to use for the reading purposes. Naturally, with the focus and development of the strategies to work with the audio input the results will be more in their quantity.

In essence, the research did not claim that extensive listening to podcasts is the only and the best way to acquire incidental vocabulary. Even more, the results were not intended to be put in comparison with the results acquired with reading. The primary goal was to suggest extensive listening to podcasts as another source of incidental vocabulary acquisition due to their productivity and due to the different learning styles among EFL learners so that the vocabulary acquisition becomes diverse, interesting and more authentic.

References

Artyushina , G., Shaypak, O., Khovrin , A. and Spektor, V. (2011). How to improve listening skills for technical students. *International Journal of Engineering Pedagogy* 1(3).

Bolliger,D , Suparakorn, S., & Boggs, C. (2010). Impact of podcasting on student motivation in the online learning environment. *Computers and Education* 55, 714-722.

Brown, R., Waring, R., & Donkaewbua, S. (2008). Incidental vocabulary acquisition from reading, reading-while-listening, and listening to stories. *Reading in a Foreign Language, 20*, 136–163.

Chang, C. S. (2009). Gains to L2 listening from reading while listening vs. listening only

in comprehending short stories. *System, 37,* 652-663.

Cho, K.S.& Krashen, S. (1994). Acquisitionof vocabulary from the Sweet Valley Kids

Series: adult ESL acquisition. *Journal of Reading* 37, 662-7.

Cobb, T. (2007). Computing the vocabulary demands of L2 reading. *Language Learning*

& Technology, 11(3), 38-63. Retrieved October 7, 2007 from

http://llt.msu.edu/vol11num3/cobb.

Cobb, T. (2008). Commentary: Response to McQuillan and Krashen (2008). *Language*

Learning & Technology, *12*, 109–114.

Coombe, C., Folse, K. &Hubley, N. (2010) *A practical Guide to Assessing English*

Language

Learners. Ann Arbor: The University of Michigan Press

De Riddler, I . (2003). *Reading From the Screen in a Second Language.* Apeldoorn:

Garant Publishers.

Ducate, L., & Lomicka, L. (2009). Podcasting: An effective tool for honing language

students' pronunciation? *Language Learning & Technology, 13(3),* 66.

Elley, W. (1989). Vocabulary acquisition from listening to stories. *Reading Research*

Quarterly 24 *(2),* 174-187.

Elley, W. B. (1991). Acquiring literacy in a second language: The effect of book-based

programs. *Language Learning* 41*(3),* 357-411.

Fortanet-Gomez, I., & Bellés-Fortuño, B. (2005). Spoken academic discourse: An

approach to research on lectures. *Revista española de lingüística aplicada*, 25 *(1),*

161-178. ISSN 0213-2028.

Fortanet-Go'mez, I. & Ruiz-Madrid, N. M[a.] (2014). A Multimodal Discourse Analysis

approach to humour in conference presentations: the case of autobiographic

references. *Procedia - Social and Behavioral Sciences* 173, 246 – 251. DOI:

10.1016/j.sbspro.2015.02.060 on 26.10.2017.

Gass, S. (2015). Experimental research. In B. Paltridge, & A. Phakiti (Eds.), *Research Methods in Applied Linguistics*. Bloomsbury Publishing.

Gholami, M., & Mohammadi, M. (2015). Podcast-mediated language learning: levels of podcast integration and developing vocabulary knowledge. In F. Helm, L. Bradley, M. Guarda, & S. Thouësny (Eds), *Critical CALL – Proceedings of the 2015 EUROCALL Conference, Padova, Italy* (pp. 210-214). Dublin: Research-publishing.net. http://dx.doi.org/10.14705/rpnet.2015.000335

Hasan, M. & Hoon, T. (2013).Podcast Applications in language learning: A review of recent studies. *English Language Teaching,* 6 (2).

Hasan, M. M., & Tan, B. H. (2017). ESL learners' perception and attitudes towards the use of podcast in developing listening skills. *The English Teacher*, *14(2)*.

Horst, M., Cobb, T., & Meara, P. (1998). Beyond a clockwork orange: Acquiring second language vocabulary through reading. *Reading in a Foreign Language, 11*, 207–223.

Horst, M. (2005). Learning L2 vocabulary through extensive reading: A measurement study. *The Canadian Modern Language Review*, *61*, 355–382.

Hu, M., & Nation, I. S. P. (2000). Vocabulary density and reading comprehension. *Reading in a Foreign Language,* 13*(1),* 403–430.

Hubbard, P. (2017). Technologies for Teaching and Learning L2 Listening. In Chapelle, C. A. & Sauro, S. (Eds), *The Handbook of Technology and Second Language Teaching and Learning.* UK: John Wiley & Sons, Inc.

Huckin, T., & Coady, J. (1999). Incidental vocabulary acquisition in a second language. *Studies in Second Language Acquisition*, *21*(2), 181-193.

Hymes, D. (1972). Models of interaction of language and social life. In Gumperz J., J. and Hymes, D. (Eds.) *Direction in Sociolinguistics*. New York: Holt, Reinhart and Winston, 35-71.

Jones, E. (2005) Assessing students' oral proficiency. In D. Lloyd, P. Davidson, & C. Coombe (Eds.). *The fundamentals of language assessment. A practical guide for teachers in the Gulf* (75-82). Dubai: TESOL Arabia Publications.

Kay, S., Jones, V. Brayshaw, D. & Trpnell, B. (2016). *Focus 4.* Pearson.

Krashen, S. (1981). *Second language acquisition and second language learning.* Oxford: Pergamon.

Laufer, B. (2003). Vocabulary acquisition in a second language: Do learners really acquire most vocabulary by reading? *Canadian Modern Language Review*, *59*, 565–585.

Lee, S.Y. (2007). Revelations from three consecutive studies on extensive reading. *RELC Journal*, *38*, 150–170.

Ma, Q. (2009). *Second language vocabulary acquisition*. Bern: Peter Lang.

Malavska V. (2016). Genre of an Academic Lecture, *International Journal on Language, Literature and Culture in Education*. Volume 3, Issue 2, 56-84,. DOI: https://doi.org/10.1515/llce-2016-0010.

Meier, A. (2015). L2 Incidental Vocabulary Acquisition Through Extensive Listening to Podcasts. *Studies in Applied Linguistics and TESOL*, 15 *(2)*.

Mechraoui, K. , Mechraoui, A. & Rafeeq, S. (2015). The effect of listening to podcast on incidental vocabulary acquisition. *International Journal of Humanities and Management Sciences* 3 *(1)*.

Milne, D., E. & García, S., D. (2013). Does everybody understand?' Teacher questions across disciplines in English-mediated university lectures: An exploratory study. *Language 5(1)*, 129-151.

Nagy, W.E. (1997). On the role of context in first- and second—language vocabulary learning. In Schmitt, N. and McMcarthy, M. (Eds.) *Vocabulary description, acquisition and pedagogy* (pp. 64-83). Cambridge, UK: Cambridge University Press.

Nation, I. S. P (1995). Vocabulary learning through spoken use. *JALL Bulletin*, 9.

Nation, I. S. P. (2006). How large a vocabulary is needed for reading and listening? *Canadian Modern Language Review*, *63(1),* 59-82.

Nation, P., & Chung, T. (2009). Teaching and testing vocabulary. In M. H. Long and C., J. Doughty (Eds.), *The handbook of language teaching*. UK: Blackwell Publishing

Nation, I.S.P., & Wang, K.M.T. (1999). Graded readers and vocabulary. *Reading in a Foreign Language*, *12*, 355–380.

Nation, I.S.P., & Meara, P. (2010). Vocabulary. In N. Schmitt (Ed.), *An introduction to applied linguistics: Second edition* (pp. 34-52). London, UK: Edward Arnold.

Nation, P. & Meara, P. (2020). Vocabulary. In Schmitt, N & Rodgers, M. (Eds.), *An introduction to applied linguistics: Third edition.* New York: Routledge.

Nunan, D. (2015). *Teaching English to speakers of other languages: An introduction.* NY: Routledge

O Bryan, A. N. N. E., & Hegelheimer, V. (2007). Integrating CALL into the classroom: The role of podcasting in an ESL listening strategies course. *RECALL-HULL THEN CAMBRIDGE 19*(2), 162.

Paltridge, B. (2006). *Discourse Analysis*. London: Continuum International Publishing Group.

Pellicer-Sanchez, A. & Schmitt. N. (2010). Incidental vocabulary acquisition from an authentic novel: Do things fall apart. *Reading in a Foreign Language* 22*(1),* 31-55.

Pigada, M., & Schmitt, N. (2006). Vocabulary acquisition from extensive reading: A case study. *Reading in a Foreign Language*, *18*, 1–28.

Pitts, M., White, H., & Krashen, S. (1989). Acquiring second language vocabulary through reading: A replication of the Clockwork Orange study using second language acquirers. *Reading in a Foreign Language*, *5*, 271–275.

Robinson, P. (2001). *Cognition and Second Language Instruction*. UK: Cambridge University Press.

Rosell-Aguilar, F. (2007). Top of the pods – In search of a podcasting "podagogy" for language learning. *Computer Assisted Language Learning, 20(5),* 471-492.

Rott, S. (1999). The effect of exposure frequency on intermediate language learners' incidental vocabulary acquisition through reading. *Studies in Second Language Acquisition*, *21*, 589–619.

Schmidt, R. (1994). Deconstructing consciousness in search of useful definitions for applied linguistics. *AILA Review*, 11, 11-26.

Schmitt, N. (2000). *Vocabulary in language teaching.* Cambridge: Cambridge University Press. ISBN 9780521669382.

Schmitt, N. (2008). Instructed second language vocabulary learning. *Language Teaching Research, 12*, 329–363.

Singleton, D. (1999). *Exploring the second language mental lexicon*. Cambridge: Cambridge University Press.

Swales, J. M. (1990). *Genre analysis: English in academic and research settings*. New York, NY: Cambridge University Press.

Sze, P. M. (2006). Developing students' listening and speaking skills through ELT podcasts. *Education journal-Hong Kong-Chinese University of Hong Kong 34*(2), *115.*

Thompson, S. (1994). Frameworks and contexts: A genre-based approach to analyzing introductions. *English for Specific Purposes* 13(2), 171-186.

Torsani, S. (2016). *CALL teacher education: Language teachers and technology integration.* The Netherlands: Sense Publishers.

The infinite dial. (2020). *Media and Technology*. Retrieved from https://www.edisonresearch.com/the-infinite-dial-2020/ retrieved 10 December 2020

Van Zealand, H., & Schmitt, N. (2013). Incidental vocabulary acquisition through L2 listening: A dimensions approach. *System, 41,*609-24.

Vidal, K. (2003). Academic listening: A source of vocabulary acquisition? *Applied Linguistics, 24(1),* 56-89.

Vidal, K. (2011). A comparison of the effects of reading and listening on incidental vocabulary acquisition. *Language Learning*, *61*, 219–258.

Waring, R., & Takaki, M. (2003). At what rate do learners learn and retain new vocabulary from reading a graded reader? *Reading in a Foreign Language*, *15*, 130–163.

Webb, S. (2007). The effects of repetition on vocabulary knowledge. *Applied Linguistics*, *28*, 46–65.

Webb, S. (2008). The effects of context on incidental vocabulary learning. *Reading in a Foreign Language*, *20*, 232–245.

Webb, S.A. & Chang, A, C-S. (2015). Second language vocabulary learning through extensive reading: How does frequency and distribution of occurrence affect learning? *Language Teaching Research*, 19*(6),* 667-686.

Webb, S., Newton, J., & Chang, C.-S. (2013). Incidental learning of collocation. *Language Learning*, *63*, 91–120.

Yeh, C. (2013). An investigation of a podcast learning project for extensive listening. *Language Education in Asia*, *4*(2), 135-149.

Appendices

Appendix A

The descriptions of the episodes included into the research

Episode Title	Duration	Tokens number	Coverage (%)	Word Families
(Almost) Zero Waste Holidays: Traditions With Less Trash	51 min	8306	K1: 89.4 K2: 94.6 K3: 96.4 K4: 97.3 K5: 97.7 K6: 98.3 … K18: 98.8	K1: 569 K2: 188 K3: 83 K4: 41 K5: 20 K6: 17 … K18: 1
7 Ways to Make Your Closet Sustainable	43 min	7384	K1: 87.2 K2: 93.6 K3: 96.3 K4: 97.3 K5: 97.9 K6: 98.1 … K18: 99.2	K1: 535 K2: 193 K3: 100 K4: 34 K5: 22 K6: 17 … K18: 1
How Your Travel Habits Affect Climate Change	45min	7357	K1: 87.1 K2: 93.0 K3: 96.7 K4: 97.8	K1: 472 K2: 160 K3: 107 K4: 33

			K5: 98.2 K6: 98.5 … K18: 99.3	K5: 22 K6: 10 … K18: 2
How to buy less-	44 min 37 sec	7828	K1: 89.6 K2: 94.8 K3: 96.8 K4: 97.6 K5: 98.1 K6: 98.5 … K18: 99.2	K1: 525 K2: 164 K3: 81 K4: 33 K5: 18 K6: 14 … K18: 1
10 Easy Tips for Budget-Friendly Sustainable Living-	45min 50 sec	7985	K1: 89.0 K2: 94.1 K3: 96.2 K4: 97.0 K5: 97.7 K6: 98.0 … K18: 98.9	K1: 535 K2: 178 K3: 75 K4: 37 K5: 31 K6: 14 … K18: 1
Why You Should Go Plastic-Free	47 min	8353	K1: 87.5 K2: 93.9 K3: 96.4 K4: 97.6 K5: 98.0 K6: 98.3 … K18: 98.9	K1: 574 K2: 208 K3: 100 K4: 50 K5: 21 K6: 14 … K18: 1
What You Need to Know About Carbon Emissions	55 min	9325	K1: 85.5 K2: 91.2 K3: 96.4 K4: 97.6 K5: 98.0 K6: 98.2 … K18: 99.0	K1: 538 K2: 192 K3: 105 K4: 46 K5: 23 K6: 16 … K18: 1
Overall	**331 min 45 sec**	**56,538**		

Appendix B

The overall description of the lexical units included in the PDT

Lexical unit	Type	Part of speech	Frequency	Distribution
1. Pothos	Free morphemes	Common noun	8	1
2. Wreath	Free morphemes	Common noun	4	1
3. Aspiration	Free morphemes	Common noun	4	1
4. Alley	Free morphemes	Common noun	3	2
5. Outfit	Free morphemes	Common noun	9	2
6. Scouting	Free morphemes	Common noun	18	4
7. Bulk	Free morphemes	Common noun	3	1
8. Snack	Free morphemes	Common noun	4	1
9. Hack	Free morphemes	Common noun	9	1
10. Comforter	Free morphemes	Common noun	9	4
11. vacuum	Free morphemes	Common noun	1	1
12. moisture	Free morphemes	Common noun	6	4
13. thrift	Free morphemes	Common noun	9	3
14. luggage	Free morphemes	Common noun	9	1
15. mindset	Free morphemes	Common noun	6	3
16. baseline	Free morphemes	Common noun	4	1
17. bulb	Free morphemes	Common noun	4	2
18. inventory	Free morphemes	Common noun	2	1
19. landfill	Free morphemes	Common noun	5	2
20. laundry	Free morphemes	Common noun	11	2
21. fatigue	Free morphemes	Common noun	3	1
22. heritage	Free morphemes	Common noun	4	1
23. takeaway	Free morphemes	Common noun	5	4
24. pesticide	Free morphemes	Common noun	11	4
25. slash	Free morphemes	Common noun	18	7
26. ziplock	Free morphemes	Common noun	2	2
27. closet	Free morphemes	Common noun	30	2
28. eucalyptus	Free morphemes	Common noun	11	4

29.	entrepreneur	Free morphemes	Common noun	4	1
30.	transparency	Free morphemes	Common noun	6	5
31.	Patagonia	Free morphemes	Proper noun	8	2
32.	Lush	Free morphemes	Proper noun	8	2
33.	Puracy	Free morphemes	Proper noun	11	3
34.	Sheets and Giggles	phrase	nominal phrase/proper noun	22	4
35.	capsule wardrobe	phrase	Nominal phrase	13	2
36.	greenhouse gas	phrase	Nominal phrase	15	1
37.	march	Free morphemes		2	1
38.	encompass	Free morphemes		2	1
39.	offset	Free morphemes		33	4
40.	manufacture	Free morphemes		15	4
41.	upcycle	Free morphemes		8	2
42.	mend	Free morphemes		2	1
43.	mitigate	Free morphemes		6	2
44.	swap	Free morphemes		13	4
45.	awesome	Free morphemes		18	5
46.	mindful	Free morphemes		3	5
47.	ethical	Free morphemes		77	7
48.	tumbled	Free morphemes		2	1
49.	wicking	Free morphemes		4	4
50.	punny	Free morphemes		5	3
51.	staggering	Free morphemes		4	4
52.	doable	Free morphemes		3	2
53.	sparkly	Free morphemes		6	4
54.	secondhand	Free morphemes		14	4

Project-designed test (PDT)

TEST

SECTION 1

Choose one of the options for each question. Each question has only one correct answer. Each correct answer is 1 point. You have 15 minutes for the test. Good Luck!

1. –How to make a/an _____?

   -First, you need to find a circle base, made of either plastic or carton. Then you add some greenery and some décor on the circle base. That's all. It is ready!

   A. Pothos \ ˈpō-ˌthäs \
   B. Wreath \ ˈrēth \
   C. Aspiration \ ˌa-spə-ˈrā-shən \
   D. Alley \ ˈa-lē \
   E. Don't know.

2. The _____ _____ experience really kicked that off for me because I was able to kind of reset my thinking when it came to buying a piece of clothing so rather than thinking, "Oh, this is going to be a cute piece that I'll wear a little bit." I actually every time I went through to buy something during that time

period, it was only going to be one of my 20 pieces and was something that fit into this larger outfit category.

A. Awesome \ ˈȯ-səm \ outfit \ ˈau̇t-ˌfit \
B. Capsule wardrobe \ ˈkap-səl ˈwȯr-ˌdrōb \
C. Mindful scouting \ ˈmīn(d)-fəl \ \ ˈskau̇-tiŋ \
D. Greenhouse gas \ ˈgrēn-ˌhau̇s ˈgas \
E. Don't know

3 . Tiktok is becoming kind of a treasure chest for information about, you know, what
-------------------- to use cleverly to save not only money but also to remain sustainable.

A. bulks \ ˈbu̇lks\
B. snacks \ ˈsnaks \
C. hacks \ ˈhaks \
D. comforters \ ˈkəm(p)-fər-tərs\
E. Don't know

4. _____ is a sustainable company that produces
eco-friendly bed cloth for multiple uses.

A. Patagonia \ ˌpa-tə-ˈgō-nyə\

B. Lush \ ˈləsh \

 C. Puracy \ˈpjurəsi \
 D. Sheets and Giggles \ ˈshēts ən ˈgi-gəls \
 E. Don't know

5. No matter how surprising it may sound there are producers in China who are
_____ and make high-quality and environmentally-friendly items.

 A. ethical \ ˈe-thi-kəl \
 B. tumbled \ ˈtəm-bəl \
 C. wicking \ ˈwi-kiŋ \

D. punny \ ˈpə-nē \

E. Don't know

6. Apart from buying less, another option for damaging our planet less is to

_____ things such as clothes, furniture, musical instruments, etc.

with the people who may offer something necessary in return.

A. mend \ ˈmend \

 B. upcycle \ ˈəp-ˌsī-kəl \

 C. mitigate \ ˈmi-tə-ˌgāt \

D. swap \ ˈswäp \

E. Don't know

7. Modern sustainable sheets may have the feature of absorbing _____

so that a person sleeping in it does not sweat too much when feeling hot.

 A. landfill \ ˈlan(d)-ˌfil \

  B. moisture \ ˈmȯis-chər ˌ

 C. thrift \ ˈthrift \

 D. luggage \ ˈlə-gij \

 E. Don't know

8. Buying or selling _____ clothes is a way to extend the life of

those pieces and create less wasteful trash that may require decades to degrade.

 A. Staggering \ ˈsta-g(ə-)riŋ \

 B. Doable \ ˈdü-ə-bəl \

 C. Sparkly \ ˈspär-k(ə-)lē \

 D. Secondhand \ ˈse-kən(d)-ˈhand \

 E. Don't know

9. Once you adopt the _____ of working with what you've got

and being thoughtful about the new things you bring into your life, living sustainably

and saving money go hand in hand.

 A. mindset \ ˈmīn(d)-ˌset \

 B. baseline \ ˈbās-ˌlīn \

C. bulb \ ˈbəlb \

D. inventory \ ˈin-vən-ˌtȯr-ē \

E. Don't know

10. Regarding people's growing demand for clear environment, more and more airline companies are motivated to _____ greenhouse gases that are being put in the atmosphere.

A. march \ ˈmärch \

B. encompass \ in-ˈkəm-pəs \

C. <mark>offset</mark> \ ˈȯf-ˌset \

D. manufacture \ ˌman-yə-ˈfak-chər \

E. Don't know

11. The thinking that doing _____ cannot be sustainable is wrong. If we control the frequency we wash our clothes with and the types of chemicals we use, we can save a lot of water and reduce the amount of damaging chemicals going into the water.

A. Vacuum \ ˈva-kyüm \

B. <mark>Laundry</mark> \ ˈlȯn-drē \

C. Fatigue \ fə-ˈtēg \

D. Heritage \ ˈher-ə-tij \

E. Don't know

12. Going into the mindset that we can replace much of our stuff with items that can be washed and used for many times is environmentally-friendly. One example may be a/an _____ which may be changed with a cloth bag or a wooden container for storing food.

A. Takeaway \ ˈtāk-ə-ˌwā \

B. Pesticide \ ˈpe-stə-ˌsīd \

C. Slash \ ˈslash \

D. <mark>Ziplock</mark> \ ˈzip-ˌläk \

E. Don't know

13. So _____ contentment is really about getting to that place of happiness and knowing your personal style and knowing what makes you happy when you shop. And when you choose a new piece of clothing, this is a journey. It's not like when you go on a diet and you clear out everything in your feet and then the next day you have a fridge full of broccoli and chicken cutlet like it takes people years and years to build a wardrobe that they feel really proud of and represents them.

A. <mark>Closet</mark> \ ˈklä-zət \

 B. Eucalyptus \ ˌyü-kə-ˈlip-təs \

 C. Entrepreneur \ ˌän-trə-p(r)ə-ˈnər \

D. Transparency \ trans-ˈper-ən(-sē \

E. Don't know

SECTION 2

Explain the words and the phrases below in English or Armenian. You can use synonyms, antonyms, definitions or Armenian translations in your answer. For each correct answer you will get 1 point, a close answer-0.5 and incorrect answer-0. You have 20 minutes for the test.

1. pothos \ ˈpō-ˌthäs \ 2. aspiration \ ˌa-spə-ˈrā-shən \ 3. alley \ ˈa-lē \

1. _____
2. _____
3. _____

4.upcycle \ ˈəp-ˌsī-kəl \, 5. luggage \ ˈlə-gij \, 6. staggering \ ˈsta-g(ə-)riŋ \

4._____
5._____
6._____

7. doable \ ˈdü-ə-bəl \, 8. awesome \ ˈȯ-səm \, 9. sparkly \ ˈspär-k(ə-)lē \

7._____
8._____
9._____

   10. outfit \ ˈaùt-ˌfit \, 11. baseline \ ˈbās-ˌlīn \, 12. mindful \ ˈmīn(d)-fəl \

10._____

11._____

12._____

13. bulb \ ˈbəlb \, 14. scouting \ ˈskaù-tiŋ \, 15.landfill \ ˈlan(d)-ˌfil \

13._____

14._____

15._____

16. greenhouse gas \ ˈgrēn-ˌhaùs ˈgas \, 17. march \ ˈmärch \, 18. bulks \ ˈbùlks\,

16._____

17._____

18._____

19. encompass \ in-ˈkəm-pəs \, 20. snacks \ ˈsnaks \, 21. manufacture \ ˌman-yə-ˈfak-chər \

19._____

20._____

21._____

22. comforters \ ˈkəm(p)-fər-tərz\, 23. patagonia \ ˌpa-tə-ˈgō-nyə\, 24. fatigue \ fə-ˈtēg \

22._____

23._____

24._____

25. lush \ ˈləsh \, 26. heritage \ ˈher-ə-tij \, 27. puracy \ˈpjurəsi \

25._____

26._____

27._____

28. takeaway \ ˈtāk-ə-ˌwā \, 29. tumbled \ ˈtəm-bəl \ 30. pesticide \ ˈpe-stə-ˌsīd \

28._____

29._____

30._____

31. wicking \ ˈwi-kiŋ \, 32. slash \ ˈslash \, 33. punny \ ˈpə-nē \

31._____

32._____

33._____

34. eucalyptus \ ˌyü-kə-ˈlip-təs \. 35. mend \ ˈmend \, 36. entrepreneur
    \ ˌän-trə-p(r)ə-ˈnər \

34._____
35._____
36._____

37. mitigate \ ˈmi-tə-ˌgāt \, 38. transparency \ trans-ˈper-ən(-sē \, 39. inventory
    \ ˈin-vən-ˌtȯr-ē \

37._____
38._____
39._____

40. thrift \ ˈthrift \, 41. vacuum \ ˈva-kyüm \,

40._____
41._____

Appendix D

Listening comprehension test for week one

**Answer the questions. Each question has only one correct answer. Each correct answer
is 1 point. You have 6 minutes. GOOD LUCK!**

1. What is the episode about?
    a. to recreate their childhood Christmas
    b. to buy a huge Christmas tree
    c. to create less waste on holidays
    d. to compare Russian and American Christmas celebrations

2. What type of a Christmas tree does Liza suggest getting?

    a)   a pink one
    b)   a big one
    c)   a real one
    d)   an average one

3. What type of Christmas ornaments are suggested to have?

    a. DIY ornaments
    b. single-use plastic ornaments
    c. shining ornaments
    d. expensive ornaments

4. What type of cards is environmentally-friendly according to the episode?

    a.   with shiny coats
    b.   with recyclable paper
    c.   with expensive paper
    d.   with the space to write letters

5. What is suggested to gift to avoid return items?

    a)   Shoes
    b)   Wine glasses
    c)   Sweets
    d)   Olive oil

Appendix E

A teacher interview

-Answer the following questions regarding the vocabulary teaching with the high-school students within the fixed time period:

1.   What listening activities did the book contain for the fixed period of time?

    a. Did you cover all of them or not?

2. Did you prepare extra-listening activities?

   a. if yes, what kind of, where from (e.g. YouTube, podcasts)?

3. What vocabulary have you focused on since February- the one included in the

   coursebook mainly or have you extended the list?

   a. If you have, then what type of vocabulary have you focused on- technical

   vocabulary, academic vocabulary, colloquial vocabulary, etc.?

4. What topics were included in the coursebook for the high school within the fixed

   period time?

Appendix F

The survey on the participants' attitude to the practice of extensive listening to podcasts

PARTICIPANTS' ATTITUDES

- *Answer the following questions regarding your attitudes towards this research study:*

1) Have you enjoyed participating in this research study? Was it a burden for you?

2) Did you to all the episodes? How long did it take to listen and understand one? Did the amount of time impact your motivation?

3) Did you enjoy listening to the episodes? Were they interesting?

4) How was the episode levels? Did you find them difficult to understand?

5) Were there many unfamiliar words that did not let you understand the overall meaning of an episode?

6) Were there too many unfamiliar words in the episodes? Did you look up for the meaning of all?

7) Which strategies did you use for dealing with foreign words (used a dictionary, guessed form the context, etc)?

8) Did you have previous instruction on possible strategies to deal with new words you encountered while listening? If so, can you name any?

9) Do you think you have learnt any of the foreign words from the book? If yes, can you write down as many as you remember?

10) What was helpful in the episodes that led to the learning of new words?

11) How is it easier for you to learn new words in English: by reading books or by lsietning to podcasts? Why?

12) Would you spend more time on listening to podcasts and learning new words if you did not have your classes?

13) Will you continue listening to podcasts after the project for learning new English words?

14. Feel free to express any idea that you think is important but was not included into the survey.

ՄԱՍՆԱԿԻՑՆԵՐԻ ՎԵՐԱԲԵՐՄՈՒՆՔԸ ՆԱԽԱԳԾԻ ՀԱՆԴԵՊ

—Խնդրում եմ, պատասխանել հետևյալ հարցերին, որպեսզի արտահատեք Ձեր վերաբերմունը նախագծի հանդեպ: Շնորհակալություն:

1) Ձեզ դուր եկա՞վ նախագծին մասնակցելը: Ի՞նչն էր բեռ կամ ոչ հաճելի Ձեզ համար նախագծի ընթացքում (օրինակ, դասերի հետ համադրելը):

2) Լսե՞լ եֆ բոլոր փոդքասթերը: Ինչքա՞ն ժամանակ էր պահանջվում դրանք լսելու և հասկանալու համար: Մախսված ժամանակը խանգարու՞մ էր հասկանալուն կամ Ձեր մոտիվացիային:

3) Ձեզ դուր եկա՞վ փեդքասթեր լսելը: Արդյո՞ք թեմաները Ձեզ հետաքքքրում էին:

4) Արդյոֆ բա՞րդ էին փոդքասթերը: Դժվար էր դրանք հասկանալ և ինչու՞:

5) Շա՞տ էին անծանոթ բառեր, որոնք թույլ չէին տալիս հասկանալ փոդքասթների իմաստը:

6) Շա՞տ էին անծանոթ բառերը փոդքասթներում: Արդյո՞ք նայում էիֆ նրանց բոլորի իմաստները:

7) Ինչպես էիֆ հաղթահարում անծանոթ բառերի խոչընդոդը (նայում էիֆ նրանց իմաստը բառարանում, փորձում էիֆ գուշակել նրանց իմաստը կոնտեկստից, այլն):

8) Արդյո՞ֆ Ձեզ սովորեցրել են ինդես աշխատել անծանոթ բառ հանդիպելիս կամ ինչ ստրատեգիաներ կիրառել:Կրվարկե՞ֆ մի քանիսը:

9) Կարծու՞մ եֆ Դուֆ սովորեցիֆ նոր բառեր փոդքասթերից: Կարո՞ղ եֆ գրել մի քանիսը:

10) Ի՞նչն էր ձեզ օգնում նոր բառեր սովորել փոդքաստերից (կրկնվող բառերը, հետաքրքիր թեմաները, հումորը, այլն):

11) Ինչպե՞ս է Ձեզ ավելի հեշտ նոր բառեր սովորել: գրբեր կարդալով, թե փոդքասթեր լսելով: Ինչու՞:

12) Եթե չլիներին դասերը, ավելի շատ ժամանակ կծախսեի՞ք փոդքասթերը լսելու վրա ու բառեր սովորելու վրա:

13. Նախագծից հետո կշարունակե՞ք լսել փոդքասթեր անգլերենի Ձեր բառապաշարը հարստացնելու ու նոր բառեր սովորելու համար:

14) Արտահայտեք ցանկացած միտք, որը Դուք կարծում եք չհարցվեց կամ կարևոր էր Ձեր փոդքասթեր լսելու կենսափորձը նկարագրելու համար:

Appendix G

Frequentist Individual Item Reliability Statistics for the LCTs

	If item dropped
Item	**Cronbach's**
LCTW1	0.764
LCTW2	0.760
LCTW3	0.738
LCTW4	0.730
LCTW5	0.786
LCTW6	0.733
LCTW7	0.749

Appendix H

Independent samples t-test results for the pre- and post UVLT in both groups

Pre and Post UVLTs	t	df	p	Mean Difference	SE Difference
UVLT pre 1000	-0.319	30	0.752	-0.318	0.999
UVLT pre 2000	-0.527	30	0.602	-1.073	2.035
UVLT pre 3000	0.950	30	0.349	1.409	1.483
UVLT pre 4000	-0.614	30	0.544	-2.245	3.660
UVLT pre 5000	0.533	30	0.598	-3.973	7.450
UVLT post 1000	-3.703	30	<. .001	-4.155	1.122
UVLT post 2000	-3.042	30	0.005	-4.473	1.470
UVLT post 3000	-3.249	30	0.003	-4.891	1.505
UVLT post 4000	-3.749	30	< .001	-18.655	4.976
UVLT post 5000	-3.127	30	0.004	-23.473	7.507