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Abstract

This thesis is about the English vocabulary growth of the 9th grade Pakistani students through the extramural English (EE) activities. The main purpose of this thesis was to find the correlation between Pakistan ninth graders' extramural English habits and their impact on the vocabulary acquisition. This study also tried to explain that how the amount of exposure of EE had put an effect on the vocabulary, the type of EE activity and its impact on the acquisition of vocabulary. In the last, this study had put a focus on the gender difference in the context of vocabulary learning through EE activities.

This study had used a mixed method approach to collect and analyse the data i.e. qualitative and quantitative. The sample size was 30 but after analysis only 27 students i.e. 14 boys and 13 girls had taken part in the study. The data was collected from two different schools such as girls Urdu medium school in the rural area and boys English medium school located at a small town.

This study showed that overall EE activities had a positive relationship with the vocabulary growth. Yet some EE had a more effect on the vocabulary acquisition of L2 than others. According to the findings of this study many students had spent average 1 hour per week on the EE activities. In addition, the majority of pupil who had spent less time outperformed well through some EE activities. For instance, reading was the most popular activity among 9th grade's student but a higher amount of exposure of reading had put a negative impact on the vocabulary. In contrast, watching movies turned out to be the least frequent activity but it had directly proportion relation of time and vocabulary. For instance, higher amount of exposure of the watching movies means higher rate of the vocabulary growth. In short, all EE activities such online digital games, watch TV series, internet use had a positive impact on the vocabulary growth with high exposure except reading and music. In other words, all above mentioned activities helped to improve the English vocabulary with increasing time. But higher exposure of the reading and music had a reverse impact on vocabulary growth of Pakistani students.

Moreover, this study also indicated that boys outperformed very well in the vocabulary test as compared to the girls' test. In addition, the difference was very significant it means that boys had acquired the vocabulary more than girls through EE activities. The behind reason of outperformed was the basic knowledge of L2 which boys had higher as compared to the girls.

This thesis had contributed the research on the extramural English activities and its impact on L2 of 9th grade Pakistani students. However, there was very few studies regarding EE activities in the Pakistani context. In addition, the previous studies were only for the older students, so, this study shed a light on the L2 learning of younger students through EE activities. Furthermore, this study helped to improve the class-room environment which leads to more motivation and the English vocabulary growth.

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1 Introduction

This master thesis investigates the relationship of extramural English (EE) activities and vocabulary acquisition of 9th graders in Pakistan. This study explores the acquisition of English vocabulary through EE activities, the amount of exposure of EE activities and their impact on vocabulary acquisition. Furthermore, this thesis examines the degree to which particular extramural activities help improve vocabulary growth and it sheds light on gender differences between EE in relation to English vocabulary acquisition.

In the older days, schools were the main source where any one can get education of the English language with the help of teachers' instructions. But now-a-days the English becomes Lingua Franca means "a language used for communication between groups of people who speak different languages" (Lingua Franca, 2023). In other words, people should know the English language to communicate in this global world. So, the English language is everywhere, and people are no longer dependent on the educational institutions for learning. Since this is the technology period and in Pakistan many students can learn language outside the school which is known as Extramural English which defines as; "learner comes in contact with or is involved in English outside the walls of the English classroom..... in fact, the learner might not even have a reason for coming in contact with or becoming involved in extramural English" (Sundqvist and Sylvén, 2016, p. 6).

In addition, EE activities are performed outside the classroom without the instruction of teachers for the entertainment purpose. This thesis addresses the following questions:

- 1. Do EE activities lead to vocabulary growth in second language (L2) English in high school students in Pakistan?
- 2. Does the amount of exposure to L2 English in EE activities play a role, i.e., does an increased number of hours in EE lead to an increase in vocabulary growth?
- 3. Does the type of activity play a role, i.e., do some activities have a higher impact on vocabulary growth in L2 English than others?
- 4. Is there a correlation (positive or negative) between EE activities, vocabulary growth and gender?

This study is about the relationship of Extramural English activities and vocabulary growth of 9th grader Pakistani students. Moreover, this is the mixed method study in which 27 high school students at the age of 14 years had took part. In addition, the data was collected through qualitative (open-ended questions) and quantitative (close-ended and vocabulary test) methods.

There are some EE activities which help students to learn the English vocabulary outside the schools. The pupils engage to these activities of the English language on daily basis through different sources such as watching TV series, films, listen to music, internet use, read books and magazines and play online digital games. In short, now-a-days students has a lot of chances to learn vocabulary of second language through these activities due to technology which was difficult in the past.

This research was inspired by the study of Sundqvist, 2009 (research on the EE activities and vocabulary of Swedish students) and Estensen, 2021 (study conducted to see relationship of EE activities and vocabulary of Norwegian students). So, in this thesis the researcher tried to find the correlation of EE activities and vocabulary growth of 9th grader students of Pakistan. In other words, the main aim of this is to better understand the way of young learners that how they learn vocabulary through EE activities, effect of exposure and type of games, reading, watching TV and listening to music on the vocabulary acquisition. And in the end, the researcher tried to find out the possible (positive or negative) relationship of EE and vocabulary in the context of gender difference.

1.2 Relevancy of the thesis

This study helps to widen the researcher's better understanding about the improvement of vocabulary acquisition through extramural English activities. This study contributes to see the possible relationship between EE activities and vocabulary growth of young students of Pakistan. There were very few studies regarding the learning of the English language outside the schools Because the education system of Pakistan is still school, or teacher oriented where the main sources of learning is inside the walls of the schools.

In addition, the education system of the Pakistan is poor and has a "lack of Budget Allocation, lack of Policy Implementation, Faulty examination System, Poor Infra Structure of Educational Institutions, Lack of Teacher's quality, low enrolment" (Abid, 2022). However, this study helps to find is there any possibility to learn the English language outside the schools. The previous studies were about the EE activities of elder students such as undergraduate, but this study finds the correlation between EE activities and vocabulary growth of high school students. In addition, there was no research on the use of technology in rural and small-town schools of Pakistan. In nutshell, this study helps to find the improvement of the English vocabulary through EE activities of 9th graders students from the school of rural and small town's school.

1.3 outline this thesis

This thesis is divided into following chapters. The chapter 1 concerns about the introduction of the study and its relevancy. Chapter 2 presents previous researches and theories relation to second language acquisition. Whereas, 3rd chapter explains the methodology, procedure, participants, the tools used by the researcher to collect data, the reliability and validity of methodology and in the end write the ethical consideration. Moreover, chapter 4 write the analysis of the questionnaire, vocabulary test and finds the connection between EE activities and result of the vocabulary test. Furthermore, the 6th chapter elaborates the result of questionnaire and vocabulary test and answers the research questions. In the last, chapter 7 gives a brief explanation of conclusion and limitation of this thesis and further research implication

2 Literature review

This chapter is divided into two parts: previous research and theoretical background. Section 2.1 is about the review of existing research papers about Extramural English and vocabulary growth in the context of Sweden, Norway, and Pakistan. Section 2.2 is about the discussion of theories that help readers better understand this thesis topic. This section has further sub-sections; sub-suction 2.2.1 discusses the origin of English in Pakistan while sub-section 2.2.1.1 section explains the similarities between English and Urdu (the national language of Pakistan). Section 2.2.2 is about the term Extramural English and its activities which includes sub-section 2.2.2.1 concerning vocabulary acquisition through Extramural English, section 2.2.2.2 speaks about the informal and incidental learning of vocabulary, while sections 2.2.2.3, and 2.2.2.4 explain vocabulary acquisition through spoken input and through writing. Section 2.3 is about general second language acquisition, and it includes sub-sections explaining every part of the theory related to EE. In the end, section 2.4 discusses the gender difference and EE activities, and it includes two subsections that deal with boys' and girls' behavior toward EE and vocabulary growth.

2.1 Pervious research:

The students' encounter with new words by reading informational texts is called academic vocabulary (Baumann & Graves, 2010). Sylvén and Olsson in 2015 researched Extramural English and academic vocabulary learning. This article is about the differences between students having content and language-integrated learning (CLIL) instructions who achieved advanced proficiency in language and non-CLIL students. Both writers explained that both CLIL instruction and EE activities were influential for vocabulary growth. The result of the survey showed that CLIL students frequently read, while games were the more frequent EE activity of non-CLIL students. In other words, CLIL instructed male students used English more significantly than non-CLIL and females through EE activities. In order to study the learning of academic vocabulary Sylvén & Olsson divided students used the largest proportion of academic vocabulary, while female non-CLIL achieved the least proportion of academic vocabulary. Whereas, female CLIL & male non-CLIL had almost the same frequency of vocabulary. All four groups were assessed with the help of four assignments to show the progress from the first assignment to the fourth. Thus, there was no significant difference

between all groups. In other words, none of the four groups had a positive development in academic vocabulary. (Sylvén & Olsson. 2015).

In addition, this study also showed the impact of Extramural English and academic vocabulary. The male CLIL students had the largest exposure to EE, but the result showed that they had no significant difference in vocabulary learning than others. To sum up; "EE does not seem to have any considerable impact on progress in academic vocabulary" (Sylvén & Olsson. 2015, p. 93).

To summarize, this study expressed that EE had an impact on the low proficiency such as in the first assignment. Whereas, as the level progressed such as the second, third, and fourth assignments EE had no impact on the learning of academic vocabulary. On the other hand, sometimes EE had a negative influence, "a negative impact is actually indicated in the analysis" (Sylvén & Olsson. 2015, p. 94). In a nutshell, there was no correlation between Extramural English activities and academic vocabulary.

The above-mentioned research was about academic vocabulary, but there was also research about all types of vocabulary i.e. non-academic\informal. So, previous research acknowledged a positive relationship between EE activities and vocabulary too.

Sundqvist defines the term Extramural English (EE) in her thesis as "linguistic activities that learners engage in outside the classroom in their spare time" (Sundqvist, P. (2009). Thus, this thesis is also using the same term for EE activities. These activities are out of class and students do them for the sake of entertainment. In other words, these are non-educational activities, and the question of the thesis is whether there is any relation between EE and vocabulary acquisition. Sundqvist (2009) researched the impact of EE activities on the vocabulary and oral proficiency of Swedish 9th graders students. After piloting the data collection method, her main study took almost one year to complete. This study was a mixed method approach with a more quantitative part where she measured the relation between EE and vocabulary with the help of a questionnaire and two language diaries (Sundqvist, P. (2009). The data was collected from three different schools in Sweden and the sample size was 80 (aged 15-16; N=80; 36 boys, 44 girls). (Sundqvist, P. (2009). The main finding of this thesis is how the time spent on EE activities had an impact on the vocabulary growth and oral proficiency. In other words, the correlation between time spent on EE and vocabulary growth and oral proficiency. There is a less salient relation between self-efficacy and EE, but if students make a

small increase in time on EE this, "may make an important difference" (Sundqvist, P. 2009, p. 202). In a nutshell, if participants think that they have low motivation about EE then they can increase the impact of those activities and vocabulary growth with the help of more time. Time of EE has a positive relation with oral proficiency (OP) and vocabulary (VOC) growth, but it has more impact on VOC than OP, "13% of the variation in students' vocabulary scores, whereas it accounts for approximately 9% of the variation in their OP grades" (Sundqvist, P. 2009, p. 202).

The second finding of Sundqvist was about gender. Boys spent more time on EE than girls and score higher on vocabulary tests as well. They used their time on EE activities which are productive and need language skills to complete such as surfing on the internet, reading, and playing video games. These types of activities improve vocabulary growth more than activities that are passive and require less language use i.e. watching TV and films. To sum up, according to Sundqvist boys spent more time on active EE than girls and have a significant positive relation between EE, VOC, and OP. She expressed in her dissertation that "watching films" was ranked the lowest for both oral proficiency and vocabulary" (Sundqvist, P. 2009, p. 205).

In her study, EE was an independent variable that manipulates the VOC and OP. EE had an important positive effect on lexical growth. In other words, EE was the pathway to learning English successfully without any effect of socioeconomic background.

This piece of the study had some instructions for teachers that they can motivate students especially girls to spend more time on active EE activities; that EE is very crucial for adolescents in Sweden because during her study very few students dropped out from the research.

In (2019) Lars Erik Dahl wrote his thesis under the title of "Promoting EFL oral skills in and outside school: Norwegian lower secondary students' and their EFL teachers' experiences and beliefs". This study was conducted as a mixed method approach whose sample size was 96 -9th-grade Norwegian students and the procedure of collecting data was a questionnaire and teacher interviews.

The key finding of this study is that the answers of students expressed that they get feedback from teachers in the classroom which increased their oral skills. On the other hand, they believed that their oral skills developed more due to EE activities than in the classroom. Dhal in his thesis also expressed that reading books aloud and listening to teachers full-time during lectures are the least effective activities that can help Norwegian students to improve their oral skills.

According to Dhal (2019) Watching TV series, and movies, and playing online video games were motivating and interesting EE activities for 9th grader Norwegian students. In other words, participants thought that the above-mentioned EE activities were anxiety-free, and they spend a lot of time which enhanced their oral skills as well.

To check their communication skills, all four teachers (participants of this study) used different methods, the two old and experienced teachers preferred oral presentation, while the new teachers believed they could examine through group conversation. On the other hand, students believed that "it was vital for them to develop their English oral skills" (Dhal. L. 2019, p. 61) While at the same time; "the students preferred extramural activities, rather than oral activities" (Dhal. L. 2019, p. 74). To sum up, they believed that extramural activities and the classroom activities such as group projects, group conversations, and watching movies are joyful and can improve their oral skills more than oral presentations. This thesis also suggested that teachers should reconsider oral presentations to check speaking skills. They should use group conversation to decrease students' anxiety and help them learn communication skills more efficiently.

Finally, Dhal (2019) in his dissertation discussed teachers' beliefs which were totally different from students, saying, "regarding the effect of extramural activities and they did not seem to have a clear understanding of its role in the development of the students' oral skills" (Dhal. L. 2019, p. 75). So, Dhal suggested that teachers should use EE activities in the classroom as well to motivate students to develop their oral skills.

Reda (2019)-student of Oslo University, conducted his research on the effect of Extramural English activities on multilingual pupils with a minority background. This is a qualitative research method in which the researcher used students' logs and semi-structured interviews. The main finding of this thesis is that the multilingual students invested in the target language, and they also engaged in EE activities using different times to engage in them. To sum up, some students believed that the use of EE improves grades in English. Whereas many students used Extramural English to enhance their English skills because they thought that English is an international language and vital for better opportunities in the job market.

Vetle Tønne Estensen (2021) conducted a study about Extramural English and its effect on the vocabulary growth of 6th-grade Norwegian pupils. The sample size was 45 students and the study were using a mixed method approach such as language diaries, questionnaire both qualitative (open-ended) and quantitative (close-ended), and vocabulary test. The main question of this study was whether exposure to EE had an impact on lexical growth or not. And the main finding of Estensen's study "showed a positive relationship between high EE exposure and the pupils' vocabulary size" (Estensen. V. 2021, P. 81). In other words, 15-25 hours spent on EE activities per week were a high amount of exposure, and they helped pupils score high points in vocabulary tests as well. Time spent on digital games also matters, because pupils who played games a lot, received high scores on the vocabulary test.

Estensen expressed in his research that some types of EE activities are also crucial for vocabulary acquisition, "digital games have shown great potential for vocabulary Acquisition" (Estensen. V. 2021, P. 82). Digital games need communication to complete their task and in online multiplayer game, players can interact anyone from other countries even from English speaking countries (Estensen. V. 2021). It made no difference whatever the players' national languages were, they used the English language because English is the lingua franca. Estensen (2021) also discussed the interaction approach which is about feedback from other players during the game. There was a game known as Fortnite that "pupils reported a lot of time on" (Estensen. V. 2021, p. 82). According to Estensen's study games have a positive relation with lexical growth especially for boys because they spend more time on digital games than girls.

Gender differences in the context of correlation between EE activities and vocabulary were a key finding of Estensen's research as well. Boys and girls spend time on games differently; boys play games too much while girls' favorite EE activity was TiK ToK which was the "second most popular activity among the sixth graders" (Estensen. V. 2021, p. 83). Researchers had no idea whether TiK ToK put any impact on students' vocabulary or not, because most of the time they saw dance videos with a lot of scrolling down and ignored some videos. That is why internet time had less impact on vocabulary for girls, since the "amount of spoken input in the videos varies greatly" (Estensen. V. 2021, p. 83). In his study, he explained that students who spent the least amount of time on TiK ToK gained higher scores on the test. It means that maybe this app is not beneficial for vocabulary learning as other activities are. TiK ToK had a negative relation with vocabulary among EE activities. In other words, girls spend more time on those EE activities that have less influence on vocabulary as compared to boys. To sum up, boys spend more time on such types of EE activities which can help to improve their vocabulary more than girls. Boys also score higher on the vocabulary test than girls.

Boys and girls spend an equal amount of time watching movies and TV series. The researcher suggested that if these activities became routine, learners would encounter more unknown words, which can enhance their vocabulary. Students who spent the least time (1.3 hours per week) achieved lower scores on the vocabulary test too.

There were some findings regarding the students' beliefs, many of them believed that they learned a lot of English, especially vocabulary, with the help of EE activities. Estensen also explained that those students who had a positive attitude towards English gained higher scores than students with a negative attitude. To summarize, high exposure to EE and spending more time on various activities had a positive impact on vocabulary learning. Boys spent more time on active games and gained higher scores on vocabulary than girls. In short, EE activities had a positive correlation with vocabulary.

This thesis is about the correlation between EE activities and the vocabulary of 9th grader Pakistani students. However, all the above-mentioned previous research was conducted in Swedish and Norwegian contexts. There is very small-scale research on Extramural English and vocabulary in the Pakistani context. Asifa Qasim researched the "Impact of Digital Games on Incidental Vocabulary Acquisition of Pakistani High School Students" (2021). Her study was a mix of an online survey in the form of a questionnaire (88 students from high school responded), and interviews of five students. The collected data was analyzed quantitatively. The focus of the study was incidental learning of vocabulary.

Asifa concluded that digital games had a positive influence on students' vocabulary but in her research, there was skepticism. Students who spent 10 hours or less playing digital games performed equally well on their vocabulary test when compared to students who spent more than 10-40 hours per week (Qasim. A. 2021, p. 217). However, 52.5% claimed that they spent almost 10-40 hours as compared to 24.5% of students who played 10 hours or less (Qasim. A. 2021). So, the increased number of students can make typos and mistakes, and some students even completed their survey in a hurry without proofreading. The study was on a small scale, but the finding was that students who played more video games could get a better understanding of vocabulary.

In response to the question about multi-player online games and vocabulary acquisition, a majority of students responded that there is a positive relation between lexical growth and games. Asifa encouraged teachers and told them that students can increase confidence and decrease anxiety due to instructions of games in the classroom. Students responded that they learned different types of vocabulary from computer games. In other words, they; "learned specific terms, codes, and nouns used in spoken interaction" (Qasim. A. 2021, p. 219). Watching TV could enhance vocabulary as well, but online games were the most significant type of EE activity for vocabulary learning due to their interactive nature. Participants communicated with each other to win the game which improved the informal English language. Asifa's study expressed students' attitudes toward learning English from online games. They played games without any fear of mistakes and feedback which in turn increased their motivation. In other words, students felt relaxed and confident during online games because of the friendly environment and less anxiety about negative responses.

Another study entitled "Mobile Assisted Vocabulary Learning (M Learning): A Quantitative Study Targeting ESL Pakistani Learners" (2022) is about undergraduate students' learning due to online mobile games. This study is comparing mobile learning vocabulary and traditional paper-based English learning methods. (Naz, M. et all. 2022). Researchers of this study divided people into two groups, each group had 30 students. One group used a paper-based traditional method of learning while the second one used digital learning. Naz, M. et all conducted a pre-test before any experiment to ensure that the level of English would be the same. The result of that test "shows no statistically significant difference in pre-test scores" (Naz, M. et all. 2022, p. 1351). It means both came from a similar background with the same vocabulary level. After the post-test, there was a significant difference in vocabulary scores between mobile users and paper-based traditional method users. In a nutshell, the finding of the study was that students who were using mobiles had a greater achievement in vocabulary acquisition than those who were using the conventional method of learning.

In the Pakistan context, there are few studies about Extramural English. Because there are still some areas where students do not have any access to the internet and mobile phones, since "Pakistan's internet penetration rate stood at 36.5 percent of the total population" (Kemp, 2022). However, this dissertation was about the correlation between EE and vocabulary growth of Pakistani students, while previous researches showed a positive relation of EE activities with vocabulary. On the other hand, there was no significant positive or sometimes negative relation between EE and academic vocabulary.

2.2 Theoretical background

Section 2.2.1 and its sub-sections explain the origin of the English language in Pakistan and its comparison with Urdu, the national language of Pakistan. Moreover, section 2.3 discusses the term Extramural English and its activities. Sub-section 2.3.1 is concerned with vocabulary acquisition through Extramural English activities. In addition, sub-section 2.3.1.1 elaborates on the informal and incidental learning of vocabulary. Sections 2.3.2 and 2.3.3 show how incidental vocabulary learning through reading and spoken output are. Furthermore, the introduction of second language acquisition was in section 2.4, while sub-sections 2.4.1, and 2.4.2, explain the theories of second language acquisition.

2.2.1 English in Pakistan

English is a lingua franca in Pakistan, and it has a prominent place "in the multilingual landscape of Pakistan" (Zaidi, S. B., & Zaki, S. 2017, p. 52). Before 1947, Pakistan was a part of Indosubcontinent and English was introduced in the 16th century by the British ruler who came there for trade (Mahboob, A. (2003). After the separation of Pakistan from India in 1947, English faced many advantageous and disadvantageous conditions, such as "resentment amongst the religious parties" (Mahboob, A. 2003, p. 6). Although religious parties were strongly against it, English remains an important official language in Pakistan. English has a crucial role and enjoy the status of military, official and higher education's language. In 1973, a law was passed which stated that Urdu is the National language, while English can be used as an official language. In the educational sector status of English gradually improved and it made it place in institutions. Before discussing the English language status, we should know the system of education in schools which has four types i.e. "private elite English medium schools, private non-elite 'English medium' schools, government Urdu medium schools, and dini madaris (madrasa) [religious seminaries]" (Channa, L. A. 2017, p. 5). In other words, the former two institutions have English as the medium of instruction while the latter two have Urdu as a teaching language. Channa, in his study, explained that English is not only an official language but also a symbol of power in Pakistan.

In the early days, English was taught as a subject from grade six, while later many changes happened. Here is a brief overview about how English gradually became the prominent part of Pakistani schools. Post-Independence 1947 English was the official language, in 1959 English was only the language of higher education. In 1989, English was taught from grade one, while from 1999 to onward English became a compulsory subject from grade one. Many government schools became English-medium, but still, there are some schools in rural areas where the medium of instruction is Urdu.

To summarize, English has a great influence on Pakistan, especially, since people are divided into different social classes (English is a symbol of high class), and the medium of instruction in public schools is English too. "There have been a great number of borrowings from English to Urdu, challenging Urdu's uniqueness" (Zaidi, S. B., & Zaki, S. 2017, p. 61). In a nutshell, English has almost replaced Urdu language, and has acquired a prominent place in Pakistan.

2.2.1.1 comparison between English and Urdu vocabulary

The vocabulary learning is very crucial for the second language acquisition especially English. Urdu and English have no similarities because their alphabets and style of writing are different. The one thing which connects the two languages is vocabulary. First, whether both English and Urdu come from same family such as Indo-European but "English and Urdu are very different" (Irshad, A., & Mangrio, R. A. 2018, p.61). Thus, both languages borrowed words from each other such as loan words from Urdu. Although, English is the dominant language, during British era in the Indo-subcontinent, English people borrowed lexical items to adopt their ethos. Here is an example of some words which English borrowed from Urdu i.e. bazaar (market), curry (a dish), Jungle (forest) loot (theft). Whereas Urdu also borrowed words from English such as school, cycle, transformer, coat, telephone, etc. In other words, there are a lot of loanwords from both sides.

Convergent phenomenon means when two or more terms in the language (L1) have only one term of L2 representative (Irshad, A., & Mangrio, R. A. 2018). For example, In Urdu's linguistic vocabulary three words app, tu and tum have only one English word 'you'. To sum up, English vocabulary is advanced, precise, and to the point as compared to Urdu vocabulary.

Sometimes, the vocabulary of both languages becomes tough to explain, such as missing of the exact meaning of an Urdu word in English and vice versa. For example, the word 'daulat khana' means the house, but it has no equivalent English word. 'Marker' (writing pen) has no exact Urdu word. In other words, some lexical items are unique and have no equivalent words in the other language.

To summarize, despite the differences and lack of equivalences between English and Urdu, there are some similarities between the lexical items of both languages. In Pakistan English became a status symbol and people prefer to use a mixture of both languages. That's why loan words of both languages adjust with each other easily. So, students must learn English vocabulary for the proficiency of the English Language.

2.3 Define Extramural English and its activities

The term extramural originated from a Latin word which has two parts 'extra' means outside, and 'mural' means wall. This word was first used in the nineteenth century and had a meaning 'outside the wall of town or city' (Sundqvist, P., & Sylvén, L. K. 2019). Benson used the term "out-of-class learning' for activities that have no direct relationship to schooling" (2011b, p. 139) (Sundqvist, P., & Sylvén, L. K. 2019, p. 7). Although, this concept is about outside the wall, two words 'learning' & 'schooling' are inappropriate words for Extramural English (EE). In addition, the term EE is a non-educational and students must acquire language through EE instead of learning, because the learning process is in conscious. So, in 2009 the term EE was introduced by Sundqvist and this definition is used by the researcher in the thesis. Here is the definition of Extramural English: "EE corresponds to 'English outside the walls' and by that we mean the English that learners come in contact with or are involved in outside the walls of the classroom" (Sundqvist, P., & Sylvén, L. K. 2019, p. 6).

There are some further details to explain the term EE more accurately. Learners encountered EE activities in which they could acquire vocabulary, but that involvement was not initiated by teachers or any educational institution. There is a likelihood that students engage in EE activities due to pressure or for the sake of entertainment. In other words, the participation of EE is outside the school, without any instructions from the teacher, and the purpose of these activities is just enjoyment rather than learning.

To summarize, in EE; "no degree of deliberate intention to acquire English is necessary" (Sundqvist, P., & Sylvén, L. K. 2019, p. 6). Consequently, the student has no intention to learn English, especially vocabulary during EE activities. For example, the pupil has met the foreigner\native speaker by chance on the road and they started talking without knowing that he\she had learned new words. So, for EE the term 'acquire' is used instead of 'learn'(consciously).

If students have access to mobile, computer, and internet, they have access to a lot of EE activities. Although, some EE activities do not require internet service such as reading books, magazines, and newspapers, most of the activities need a computer or internet. Here are some EE activities which participants do for the sake of entertainment, "watching films, watching TV series, watching music videos, watching video blogs (vlogs), listening to music, reading blogs, reading books, reading magazines, reading newspapers, surfing English websites on the Internet and playing video/digital games" (Sundqvist, P., & Sylvén, L. K. 2019, p. 7).

2.3.1 Vocabulary acquisition through EE activities

Extramural English activities help to acquire vocabulary. First, reading books is the most influential activity which helps to learn lexical items. In other words, "Students gain a greater vocabulary by..... reading new words and phrases often" (Englund, M. 2022, p. 7). Extensive reading can increase the chance to acquire language, especially vocabulary. Nevertheless, students could learn very few words through reading because "reading turned out to be the least popular activity" (Estensen, 2021).

Second, watching TV, films, and videos has a positive correlation with vocabulary acquisition. According to Englund's study, captioned video has a significant role in lexical growth. In other words, videos of L2 having subtitles of L2 can improve vocabulary more than movies without any captions. There were different studies conducted by different researchers such as Kuppens (2010) and Montero Perez, Van Den Noortgate et al. 2013 (Englund, M. 2022, p. 15 & 16). All studies showed a positive correlation between videos with L2 captions and vocabulary acquisition irrespective of students' expertise.

Repetitive words are the best source to acquire new vocabulary and music is one of the activities where singers repeat their words frequently, particularly pop singers. Nevertheless, there is skepticism about music having a positive relationship with vocabulary or not. In one study from Spain preschoolers, where students were exposed to a song and listened to that to song three times. The result after the assessment was that "68% of the children had learned one to five words" while "32% had not learned any words" (Englund, M. 2022, p. 18). However, if participants listened to a second song, the "second song seemed to give greater learning" (Englund, M. 2022, p. 19). It means that multiple songs at one time are more beneficial for vocabulary learning than listening to one song multiple times. In other words, "song can be like learning through reading and reading multiple texts leads to better vocabulary acquisition than reading one text multiple times" (Englund, M. 2022, p. 19).

Kuppens' 2010 study showed a positive correlation between video games and vocabulary learning. The study found that timing has the crucial role in playing video games. For example, Sundqvist studied three groups according to the time spent on games in her study, "non-gamers (0h/week), moderate gamers (\leq 5h/week) and frequent gamers (\geq 5h/week)" (Englund, M. 2022, p. 21). The findings of the study were that frequent gamers (most of them were boys who played multiple online games) scored high on the vocabulary test. To summarize, boys spent more time on the massive multiple online games and acquired more vocabulary than girls, because girls spent less time playing and their games were also different.

In a nutshell, EE activities played a significant role in vocabulary acquisition. While some activities have a greater influence on vocabulary growth than others, activities like video games have a more positive impact on learning.

2.3.1.1 Informal and incidental vocabulary learning

It is common thought that vocabulary learning is a conscious process, but this learning could be unintentional as well. Webb & Nation (2017) explained the Ellis' term of incidental vocabulary learning as "learning words as a by-product of a task" (1999). We should read message to understand its context rather than learning the new words. However, the repetition of reading messages causes learning of new words as well. In other words, "vocabulary learning is seen as being incidental rather than intentional" (Webb & Nation. 2017).

Informal and incidental learning are the same, "informal learning incidentally occurs in the natural living areas which are out of school" (KayatekiN, E. 2021). Informal learning is related to EE because these are also out of school activities and students do these activities for the entertainment instead of learning purposes. Reynolds & Teng (2021) expressed in their article that incidental vocabulary can be acquired through different EE activities such as meaning-focused tasks, watching TV, playing video games, reading books and watching movies with subtitle of L2. Previous studies showed that incidental learning through reading books only happens when repetition of words is high, and the frequency of unknown words is low. Multimedia played a vital role in the acquisition of new lexical items such as online reading (where the reader can check the meaning in online dictionary) and captioned videos.

Incidental learning is strongly associated with second language acquisition (SLA) as "L2 is picked up subconsciously/implicitly through exposure" (Sundqvist, P., & Sylvén, L. K. 2019, p. 8). In other words, any learning without the intention to learn is incidental. The purpose of playing video games is enjoyment but unintentionally the player learns new words. Sundqvist & Sylvén in their study wrote Incidental learning as a sub-category of EE (EE learning is both intentional and unintentional). On the other hand, unintentional learning is also known as incidental in the context of SLA. Another term related to EE is "implicit learning" which means when learning takes place without any awareness.

To explain more about incidental vocabulary acquisition and its relationship with EE Sundqvist & Sylvén used another term online informal learning. This learning has a connection with internet-based activities and most of the EE activities are internet based. Extramural activities are done for the purpose of entertainment in their spare time, so there is no intention of learning. To sum up, both EE and incidental vocabulary acquisition have other purposes than learning.

2.3.2 Incidental vocabulary acquisition by reading

Nation & Webb (2017) gave reference to Nagy et.al. (1985) who explained incidental learning through reading. They proposed a hypothesis that "incidental learning from context during free reading is the major mode of vocabulary acquisition" (Nation & Webb. 2017) (Nagy et.al. 1985). Additionally, there are some factors that explain the impact of reading on vocabulary growth. First, the volume of reading material such as how many words one student reads. The volume of one million lexical items per year can enhance chances for repeated encounters with words and in this way, incidental learning of vocabulary takes place (Nation & Webb. 2017). In other words, many researchers explored that informal learning could be possible with the help of reading.

Second, the quality of the reading material also matters. Webb (2017) refers a Webb's study (2008b) in which he expressed that all reading material is not crucial to learn new words, some reading material is informative while some mislead learners about the meaning of words and is insufficient for the learning.

Third, time is also a crucial factor for vocabulary acquisition. "If words are not reencountered for a long period of time, there is potential for knowledge to decay" (Nation & Webb. 2017). Students who read multiple books read many new words and repetition of those words increases the chance of incidental learning.

In the context of a second language L2, learners can acquire the vocabulary of L2 unintentionally as well, but the gain is very small. In other words, L2 learners learned very few words and received a small amount of input which decreases the possibility of incidental learning (Nation & Webb. 2017). Extensive reading can give more input to L2 learners which helps them enhance their vocabulary. Unlike, L1 learners who read almost one million words, L2 learners can read only one book per week which means less input and less incidental vocabulary acquisition (Nation & Webb. 2017). On the other hand, reading is the less prioritized EE activity which leads to less vocabulary learning as well. To summarize, the quantity & quality of

material, time spent on reading, and large input can increase the opportunity of incidental learning of vocabulary.

2.3.3 Incidental vocabulary acquisition through spoken input

Although there is very little discussion about the incidental vocabulary of L1 through speaking, children gain vocabulary through spoken input before their schooling. For example, when they could not read or write, they learned 25-30% of vocabulary through listening. However, after reading and writing they acquired more vocabulary from reading instead of listening (Nation & Webb. 2017). Spoken input has a very small contribution to incidental vocabulary acquisition because of it provides few low-frequency words. By watching TV or films, one can hear almost 6000 words per hour "of which 73 might be relatively low in frequency" (Nation & Webb. 2017). In other words, such low-frequency words prove insignificant for the incidental vocabulary acquisition of L1.

In terms of second language acquisition, students encounter many unknown words again and again which increases the chance of informal vocabulary acquisition. Nation & Webb refers to arguments of many researchers (Rodgers & Webb, 2011; Webb, 2010a; Webb & Rodgers, 2009a) about Incidental vocabulary learning. According to them, by watching movies and TV, enough input provided repetitive words with a low frequency which helps to gain informal vocabulary learning. Words frequency through written input is 1.76% higher than spoken input which leads to less vocabulary acquisition. But repetitive words in L2 acquire the vocabulary by watching TV and films (spoken input). It means, higher amount of exposure to listen may provide similar vocabulary growth same as through writing.

Songs are also a crucial and new activity of Extramural English, however, "little research has been done with regards to using music, or more specifically, L2 songs as a source of input for vocabulary acquisition" (Maneshi, N. 2017, p. 2). Although, the result of Maneshi's study showed that vocabulary acquisition occurs through listening to songs, the amount of learning was not clear. In relation to songs, if one song is listened to two to three times, "exposure to the targeted vocabulary items and learning gains were also explored" (Pavia, N. et all. (2019c). Songs contributed to vocabulary learning and repetitive songs had a positive impact on incidental vocabulary acquisition.

To summarize, students encountered more low-frequency words through reading than listening. However, if time span of EE exposure through spoken input increased, then the encounter of low-frequency words for both reading and watching TV are similar. In other words, time spent on listening can increase the chances of incidental vocabulary learning.

2.4 Second language acquisition (SLA)

What is second language acquisition (SLA). Saville & Barto (2016) refers to the term second language acquisition as "learning a language subsequent to learning their first one as a young child, and to the process of learning that language" (p. 2). Sundqvist (2009) considers the SLA as a branch of applied linguistics and refers to the terminology of Ellis and Barkhuizen (2005:3) in her thesis, "the learning of another language (second, third, foreign) after the acquisition of one's mother tongue is complete" (Sundqvist. P. 2009, p. 10). According to Sundqvist, the second language is a foreign language, which is different from someone's first\native language, and it could be 2nd, 3rd or 4th language. In other words, the term second refers to all language after the first language. To avoid the confusion of 2nd, 3rd or 4th language acquisition Sundqvist used the word L2 for learning all languages while SLA terminology is used for general language learning.

This thesis is in the context of Pakistan where the English language is used in educational institutions as a subject. So, the term English as foreign language (EFL) is used instead of English as a second language (ESL). Before further discussion about SLA in context of EFL & ESL, let us explain difference between these terms. "The main difference between the two is that ESL learners are learning English in order to be able to communicate in an English-speaking country, while EFL learners are learning English for other reasons such as academic study or personal interest" (Mubashir, 2023). However, in Pakistan English is used as an EFL. In other words, English is the target language (TL) while one's mother tongue is known as L1.

Sundqvist (2009) argued that learning and acquisition are interchangeable and Krashen expressed two ways of developing SLA. First, learning of L2 takes place deliberately and consciously through formal instruction in the class, while acquisition happens unintentionally and unconsciously through exposure to Extramural English activities outside the classroom. In the context of SLA, there is debate "whether learning can turn into acquisition or not" (Sundqvist, P. 2009, P. 11). Some researchers agreed, but Krashen said it is impossible. In other words, it is said that learners can learn the rules i.e. grammar rules but they cannot acquire them.

Ellis, R. (2009) in his book explained the terms "Implicit" and "Explicit" learning. Implicit learning is that in which the learner remains unaware of the acquisition, for example, by playing video games, the player remains unconscious of vocabulary acquisition. Whereas explicit learning happens with consciousness as in formal education in the classroom. This thesis is about the relationship of EE and vocabulary acquisition, where extramural activities are the cause of learning vocabulary without intention, so, the term I use is "Implicit learning". Although, there is a point that it is possible to learn without intention (Ellis, R. 2009), Ellis tried to give an answer about this that when anyone read ungrammatical sentence, he\she could be able to identify the error but have no conscious awareness about that error because the learner has implicit knowledge instead of explicit (Ellis, R. 2009, p. 11).

To summarize, second language learning is the learning of any language other than one's native language. That learning could be in the natural way (acquisition) or in a formal classroom (learning) (Miao, 2015). In other words, SLA through informal -unconscious and formal learning -deliberate learning can be done. Learning from exposure to Extramural English activities is also known as informal/implicit and incidental learning of a second language.

2.5 Theoretical perspective of second language acquisition (SLA)

According to the theory of SLA, to learn the target language\second language students do not need to use grammar. In other words, meaningful interaction is needed which focuses more on the meaning than grammar of speech (Admin, 2018). Comprehensible input (-can be written or spoken input) without any formal instruction in class is required for vocabulary acquisition. According to the requirements of this thesis, where vocabulary acquisition of L2 have many theoretical perspectives. To sum up, below sections have some theories of SLA which supports the learning of language through EE exposure.

2.5.1 The Krashen theory

The Krashen theory is also known as 'Monitor Model Theory' which is about adult second language learning. Monitor theory suggested that there are two ways of second language development; acquisition and learning. However, "subconscious acquisition appears to be far

more important" (Krashen, S. 1981). In other words, Krashen theory which has five hypothesis and put more emphasis on "acquisition of a second language rather than learning" (Raju, N., & Joshith, V. P. 2018. P, 179). In addition, "this theory has had a great influence on all aspects of second language research and teaching" (Abukhattala, I. 2013. p, 128). These hypotheses are Monitor hypothesis, input hypothesis, acquisition-learning hypothesis, affective-filter hypothesis and natural-order hypothesis

2.5.1.1 The input hypothesis

This hypothesis is very important in the Krashen's theory and it is about acquisition not learning. It is very crucial to give the answer to the theoretical question; how can someone acquire language? In this hypothesis, the question about acquiring the language, especially the second, is how can one move from one stage of learning to the other? In other words, there are many ways to describe this theory, and give the answer to that question about language acquisition.

 \cdot People can acquire language when they understand what they read or listen to.

• People can acquire the language when they had known its contents such as vocabulary and grammar.

 \cdot There is a formula (i to i+1) which helps more to understand the question of how someone can acquire the language. In other words, i is the one stage of learning and this hypothesis had explained how to move from i to i+1 stage (Krashen 2013).

One term, the 'comprehensible input', is also important in this hypothesis. In addition, in the formula i+1 is comprehensible input as well. Moreover, it explains that we can acquire a second language if we already have some knowledge of L1 or even L2 in the form of input. However, in this hypothesis, there is no need for output, people only require understandable input. For example, for language acquisition, one should understand the meaning of the message and he\she have no need to speak with others for language acquisition. In a nutshell, the language acquisition is an easy process especially second language acquisition. In other words, the crucial thing to acquire a second language is the understanding of the message as comprehensible input. However, with the help of the comprehensible input, the student can acquire a second language easily (Krashen 2013).

2.5.1.2 acquisition-learning hypothesis

This hypothesis is also known as the acquisition-learning distinction. In other words, it stated that this hypothesis was about the difference between the acquisition and learning of a language, especially a second language. According to Krashen, adults have two ways to develop language i.e. learning and acquisition. Estensen (2021) referred to the statement of Krashen (1982) that "acquisition is more influential than learning" (p. 8).

The first way known as 'acquisition' is a sub-conscious process of learning. Moreover, the students have no idea that they are learning any language content such vocabulary and grammar. In addition, they had done something else such as reading a book, watching a film or playing digital games for entertainment purposes. Whereas, at the same time they had encountered many new words which helped them to acquire vocabulary without knowing that they had learned. However, there are some other terms that describe the acquisition such as incidental and informal learning (for detail see above section 2.3.1.1). In a nutshell, in the non-technical language acquisition, students just pick the vocabulary up instead of learning.

The second way, 'learning', where students learne language, especially vocabulary, deliberately. In other words, the term learning refers to the awareness of second language rules i.e. grammar etc. Moreover, the students always know what they learn, and that learning happens at school with the teacher's guidance. Thus, when any student makes some mistake and the teacher point out that mistake, in this way the student learns. Furthermore, a term is used for learning too such as formal learning; "learning that is delivered "in a systematic intentional way" (Emma, 2023). Lastly, some researchers believe that both learning and acquisition are not interchangeable but Krashen said that learning supports the acquisition and vice versa.

2.5.1.3 The Monitor Hypothesis

This hypothesis expressed that the learning of formal rules consciously is not of use for the acquisition of a second language. However, the rules we have learned deliberately in the educational institutions known as editor or monitor. In addition, unconscious acquisition had started from speaking which made students fluent. Moreover, here is the procedure how students acquire language. When someone talked in the second language then the contents of that talk were stored in the subconscious mind. However, when students wanted to use the sentence from

that conversation, they used the stored rules of their sub-conscious mind consciously. In addition, the "increased awareness of language rules can potentially cause damage to the learner's confidence" (Estensen. 2021, p. 10). In other words, sometimes students realize that they are speaking incorrectly and then they use their monitor to correct it. But, according to Krashen (2013) "it is extremely difficult to use the monitor" (p.2) so, there are three condition to use the monitor successfully.

- First, the condition is very difficult as the students must recognize all the rules. According to Krashen (2013) having the knowledge of all rules is tough because the author of grammar cannot write so much, the language teachers cannot teach all the rules and the students face difficulty to learn all the rules. On the other hand, most students cannot memorize and use the rules during conversation.
- The second condition is that students who acquire language should correct themselves, while it is also very hard because thinking of correction and saying sentences at the same time is difficult.
- Third and last condition is about the time which acquirer of second language should give. But for normal people it is tough to provide enough time to think about the rules while talking.

To summarize, Krashen (2013) refers in his writing of (1982, 2003) that students can use the grammar with the help of a monitor, when all three above mentioned conditions are fulfilled. In addition, how many students know the grammar rules, can be checked only through grammar test.

2.5.1.4 The natural-order hypothesis

In this hypothesis Krashen explains about the acquiring of language saying that students acquire the rules in the predictable order. In other words, the students first acquire grammar and then moves to the next grammatical items. For instance, in the second language "the -ing marker, the progressive (John is playing the violin) is among the first grammatical markers (function words) to be acquired, while the third person singular -s is acquired later" (Krashen, 2013. p. 3). However, the order of learning from simple to complex is not true, students can acquire complex rules earlier than simple rules. Moreover, the order of first language acquisition is different from second language acquisition (Krashen, 1982).

2.5.1.5 The affective-filter hypothesis

The last hypothesis of Krashen monitor theory is affective-filter hypothesis. It explains that affective variables do not have direct impact on second language acquisition but prevent the way of input to reach the part of the brain which is responsible for the language acquisition. In other words, if the learner has low self-confidence then even, he\she knows the input, but input will not reach to the acquisition device of the brain i.e. "a block -the affective filter- will keep it out" (Krashen, 2013. p. 4). According to Krashen (2013), the filter determines whether the comprehensible input for the second language acquisition reaches the brain of students or not. In other words, due to the affective filter, a confident student can acquire the second language easily when compared to the anxious student.

To sum up, there are some variables that explain whether a student can acquire second language easily or not.

- Motivation: Those students who have high confidence level acquire a second language easily, because comprehensible input reaches their brains without any hurdle.
- 2. Anxiety: The high anxiety level of students prevents the input from reaching the acquisition device, so, they have difficulty in second language acquisition. The less anxiety means easier acquisition of L2.
- 3. Self-confidence: Same as motivation, if students are confident, they acquire L2 more easily (Krashen 1982).

In the end, all hypotheses of Krashen's theory have a relationship with second language acquisition. But the input hypothesis, the acquisition-learning hypothesis, and the monitor hypothesis are about incidental learning of a second language. In other words, this thesis is about learning from Extramural English activities (incidental) so, these hypotheses have a connection with this project.

2.5.2 The interactionist approach

Krashen had played a significant role in the second language acquisition, especially in the form of input for L2 acquisition. In addition, Krashen used the term interchangeable for learning and acquisition. While other scholars denied and said that this is an open process because there is no limit of language acquisition. Moreover, "Krashen's second language acquisition model has been criticized, as this model lacks empirical validity but, nevertheless, his terminology has undoubtedly been commonly used, and is still used by many" (Sundqvist & Sylvén, 2016. p, 80).

Sundqvist & Sylvén (2016) referred to the statement of Long (1981) in their book that the "Interaction is the Key Element of Second Language Acquisition" (Sundqvist & Sylvén, 2016. p, 80) and known as interactionist theory. The key element of this theory is the 'comprehensible input' of a second language which is also called target language (TL). In addition, comprehensible input is mainly achieved through negotiation of meaning and just making sure that communication should flow without any break. In other words, that type of communication helps to produce the comprehensible output hypothesis according to Swain (1995), cited in the Sundqvist & Sylvén's (2016) book. Furthermore, this hypothesis had put an emphasis on the comprehensible output, where students should do dialogue and talk with others for second language acquisition. In the end, Sundqvist & Sylvén's (2016) explain the Interactionist approach as "exposure to the L2 (input), production of the L2 (output), and negotiation for meaning/ feedback through interaction" (p, 81).

The Interactionist approach had put emphasize on the SLA. However, it is also related to EE activities. There are two main parts of this theory: comprehensible input, and comprehensible output. In addition, comprehensible input is connected to reading, watching TV series, films, and listening to music. Furthermore, in this way, they acquired many language components such as vocabulary and grammar. Whereas comprehensible output is achieved through talking with friends and playing online digital video games. In other words, when they communicate with others, they encountered new words, which is helpful for the acquisition of vocabulary.

3 Methodology

This section explains the research method and it has two parts. First collecting data, and second, analyzing those data. In section 3.1 the researcher explains the purpose of this study, research questions, and hypothesis. This section is divided into further sub-sections. Section 3.2 gives information about the mixed methods approach and the reason behind the selection of this methodology. Section 3.3 talks about the participants who took part in the study. Section 3.4 is about the whole process and time used by students to complete the survey and vocabulary test. Section 3.5 is about the way of data collection and has a further sub-section piloting the study titled 3.5.1 where researchers give info about questionnaire types and vocabulary tests in parts 3.5.2, and 3.5.3. The next section (3.6) explains the data analysis method, while its sub-sections 3.6.1, and 3.6.2 elaborate on qualitative and quantitative data analysis. An explanation of the research's validity and reliability is in section 3.7, where the researcher discusses the ethical issues and considerations in section 3.8.

3.1 Research question and, aim of study any hypothesis

This section explained the main purpose of this study and mentioned the researcher's hypothesis about Extramural English activity and vocabulary growth. In the end, this part stated the research questions of this thesis.

The aim of this study is to find the relationship of EE activities and lexical growth of 9th grade Pakistani schools. Another aim of the study is whether there was any gender difference such as girls' EE activities' in relation to vocabulary growth, its comparison with boys scores of vocabulary & EE activities, and vice versa.

Furthermore, here was the main question, The correlation between Extramural English activities and vocabulary growth of 9th grader students in Pakistan. Besides, the main question, here are some sub-questions that need to be addressed in this thesis.

1. Do EE activities lead to vocabulary growth in second language (L2) English in High school students in Pakistan?

2. Does the amount of exposure to L2 English in EE activities play a role, i.e., does an increased number of hours in EE lead to an increase in vocabulary growth?

3. Does the type of activity play a role, i.e., do some activities have a higher impact on vocabulary growth in L2 English than others?

4. Is there a correlation (positive or negative) between EE activities, vocabulary growth, and gender?

However, in order to see previous research about Extramural English activities and their impact on students' vocabulary in Pakistan, Sweden, and Norway, the researcher made a hypothesis that there is a positive relation between EE activities and vocabulary acquisition. In addition, the variables such as type of activity, time, and gender also had an impact on vocabulary growth.

3.2 Introduction to mixed methodology

Exact methodology "depends on the research questions and the situational and practical issues facing a researcher" (Christensen & Johnson, 2014, p.82). So, the researcher uses a mixed method approach such as quantitative and qualitative in her project. Both approaches are necessary to find the accurate result about the 'impact of Extramural English (EE) activities. Because it tests the hypothesis (confirmatory method-qualitative) of Pakistani student's "positive role of video games in incidental vocabulary acquisition" (Qasim 2021) p. 206) and exploratory method (quantitative) which can generate new theories as there is less research on EE activities and their impact in the context of Pakistan. The reason behind the less research is that the "Internet service in Pakistan was launchedin 1995" (Wolcott and Goodman 2000) p. 12) and most EE activities need the internet, so, it is a new topic and requires more research. In the scientific research, results and outcomes can become more accurate and valid, by using the right methodology for collecting and analyzing data (Shaheen, 2018, p. 2). So, researcher collect as well as analyze data with the help of mixed method such quantitative method uses "narrow-angle lens" (Christensen & Johnson, 2014, p.85) and qualitative process practices "wide- and deepangle lens" (Christensen & Johnson, 2014, p. 86). Former method gives few choices to participants and they are not allowed to give their own opinion while latter one allows participants to answer openly according to their own wishes. This thesis requires data both in words (qualitative) and in numerical form (quantitative) for reliable result.

In scientific research, results and outcomes can become more accurate and valid, by using the right methodology for collecting and analyzing data (Shaheen, 2018, p. 2). So, researchers

collect as well as analyze data with the help of mixed methods, such quantitative methods use a "narrow-angle lens" (Christensen & Johnson, 2014, p.85) and qualitative process practices "wide-and deep-angle lens" (Christensen & Johnson, 2014, p. 86). The former method gives few choices to participants and they are not allowed to give their own opinion while the latter one allows participants to answer openly according to their own wishes. This thesis requires data both in words (qualitative) and in numerical form (quantitative) for reliable result.

In addition, "quantitative data bring breadth to the study as qualitative data provides depth to it" (Dawadi, Shrestha et al. 2021) p. 27). For example, with the help of quantitative approach researcher can collect data from maximum participants because of multiple choice questions while qualitative methods give better understanding of data due to explanation from students. This thesis is about the time spent of EE activities and their correlation with vocabulary growth, so, researchers needs maximum members and they should explain a little bit more for precise result.

One more strong reason to choose mixed method research is that the strength of one method neutralize the weakness of the second process. For example, according to this research project which is about the relationship of EE activities and lexical growth, both methods offset each other's weak points. Here is an example of how mixed method research "helps to obtain more rigorous conclusions" (Dawadi, Shrestha et al. 2021) p. 28). If quantitative method collect data in the form of close-ended questions like:

Participant spend time on video game.

- \circ One hour per day
- \circ One hour per week
- One hour per month
- No time

So, limited information about time spent on games can be weak point. But an open-ended question (qualitative) can balance the weakness and gives info about the type of game. In this way, the whole data about kind of game and its time span yield proper results about the game's effect on vocabulary.

The key consideration of selecting mixed methods is time and sample size of collecting or analyzing data is also important. As, "qualitative and quantitative data are collected and analyzed in parallel, and then merged for a complete understanding of a phenomenon" (Venkatesh et al. 2013, p. 17). The researcher of this thesis collected data of both types at the same time in the form of survey which consists of open-ended and close-ended questionnaire. To analyze the data the researcher used both qualitative and quantitative methods such. She first arranged the raw data to make this understandable i.e. list of EE activities and vocabulary as a variable, and then checked the relationship between both variables (EE activities and vocabulary). In this thesis, sample size of qualitative component is small compared to quantitative section and this "supports researchers to get in-depth qualitative exploration and rigorous quantitative examination of the issue" (Creswell and Plano Clark .2018).

Although, for this project, mixed methodology is useful to get an appropriate result, at the same time has it some limitations such as; "data collection and analysis might be a very lengthy process" (Dawadi, Shrestha et al. 2021) p. 32). To avoid this problem the researcher of this project, collected data through a single method, the questionnaire; close-ended (quantitative) and open-ended questions (qualitative). To measure the impact of EE activities on vocabulary, both qualitative and quantitative questions are used, and during analysis of data both methods can be used at the same time. Although qualitative data naturally analyzed qualitatively, it can be examined quantitatively as well; "the answers sometimes are analyzed quantitatively by counting the number of times a response was provided" (Christensen & Johnson, 2014, p. 281). For example, the researcher asks open-ended question about book reading in one week. So, the participant will give an answer according to her belief and wish that he/she read almost two books. So, the question is in the form of 'word', but the answer is in numerical form. In the mixed method research, "Quantitative research is expressed in numbers and graphs" while "Qualitative research is expressed in words" (Streefkerk, 2023). To sum up, this project has mixed questionnaire in one paper and provides mixed date i.e. qualitative & quantitative.

In addition to the questionnaire, data was also collected with the help of vocabulary test. The vocabulary test's findings give the quantitative data in the form of numbers which is compared with result questionnaire to get the result, either EE activities has positive or negative impact on lexical growth.

3.3 Participant

To choose participants for data collection, the researcher contacted few Pakistani schools by email. Because the project is 'The correlation between Extramural English (EE) activities and vocabulary growth in high school students in Pakistan. The target group is 9th grade students from public schools. The researcher asked the principles of five public schools in the small town. But only one girl high school gave permission for data collection and said they can arrange zoom meeting for you. This thesis requires data of both genders i.e. girls & boys so, for boys' participation, one private high school agreed. So, the investigator divided the sample, size (30 students), in two groups such as 15 girls and 15 boys. During analysis two girls and one boy were excluded to ensure the validity of result. One girl did not complete the vocabulary test because she said that "I started to learn English from 6th grade in the small school of village" so, as a 9th grade students vocabulary seems difficult to her. Second, the student was not interested in the survey and tried to copy answers from her friend. On the other hand, the researcher has chosen a private school for data collection from boys and there were only 14 students in the 9th grade. The schoolteacher arranged one student to complete the sample but in the end of the session, the researcher came to know that he was student from 10th grade. In this way he was excluded to obtain precise result about the effect of EE activities on vocabulary of 9th grade students. In summary, three students were omitted from survey for the sake of appropriate results. So, now only 27 students are part of this research project.

3.4 Procedure

Procedure and material of this thesis are greatly influenced by already existing thesis because:

"If an already constructed test is available for the topics of interest to you, you should strongly consider using that test because reliability and validity information will usually be available for it" (Christensen & Johnson, 2014, p. 312).

The researcher used questionnaire with minor changes from Vetle Tønne Estensen's master thesis (in 2021 from Uis) about student's Extramural habits and vocabulary acquisition. Whereas vocabulary test is influenced by Pia Sundqvist's dissertation with title Extramural English Matters: Out-of-School English and Its Impact on Swedish Ninth Graders' Oral Proficiency and Vocabulary (Printed at: Universitetstryckeriet, Karlstad 2009). Although Pia's project is about both vocabulary growth and communication skills, the researcher has only picked the vocabulary test. The vocabulary test of the Sundqvist's is about extramural English (EE) activities and its effect on the 9th grader students of Sweden, while this project is about lexical growth with the help of EE activities of Pakistani 9th grade students.

This thesis was conducted as a mixed methodology and students who participated were separated in two groups e.g. boys & girls. Both groups were from different schools so, it took two days to complete the data collection. Both questionnaire and vocabulary test were on paper because the researcher already mentioned that schools were from a small town, and students have no access to a computer or the internet. The researcher sent consent forms and other material for data to the principals of the schools, she took print of those documents and gave to students for parents' signature on consent form. Then the teacher of 9th grade and the investigator fixed time and day when the researcher could collect data. There was no projector in the class, but the teacher used her personal laptop and gave all the information about the questions and vocabulary test through a zoom call. There was some trouble of sound, but the teacher helped a lot and repeated all info about data one more time. The questionnaire was both open-ended and close-ended, but the majority of the questions were close-ended so, students took maximum 20 minutes for survey. All the time the researcher was on the zoom call to guide them about data. The vocabulary test had two parts i.e. productive level test (PLT) and vocabulary level test (VLT). The researcher made some changes in VLT part after piloting the study. So, students used almost 30 minutes for the test and in between test they had some confusion (the researcher will explain in the vocabulary test section) but the teacher helped them to resolve that misunderstanding. The whole data was collected in two days from two different schools: public & private. Before the final collection of data, the researcher did pilot the study to ensure that whether this material is worked or not in the Pakistani context. They gave their feedback and the researcher made some changes in the sample to get the precise result of thesis. The pilot study is not included in this project. In other words, only the final version of material and procedure is included, in order to avoid misconception about findings.

3.5 data collection

3.5.1 Piloting

"Pilot studies would assist researchers and increase the body of knowledge in this area" (Secomb and Smith 2011) p.31). So, the researcher of this project also did some pilot study before the final research. The questionnaire & vocabulary test for this thesis is from two other dissertation; one in a Norwegian context while second one is about Swedish students. But the topic of this thesis is EE activities and its influence on lexical growth of Pakistani students. However, "the pilot study is important for improvement of the quality and efficiency of the main study" In J. (2017, p.601). For appropriate and precise result, the right sample of data is very crucial so; "pilot studies can also be used to help calculate sample size" (Hassan, Z. A., Schattner, P., & et.all 2006, p. 72).

Questionnaire which was in the Norwegian context and was feasible but to judge in the context of Pakistan was also important. On the other hand, the survey was for 6th-class students and the researcher did some changes such as adding few different\difficult questions to 9th grade test. So, before the final survey, this study was vital. Second, the researcher had chosen the English language for the questions because of lack of an Urdu (the national language of Pakistan) keyboard. The researcher also wanted to check either students can understand the questions or not as; "the researchers usually face matter when they want to use an original questionnaire in a different language" Hazzi, O., & Maldaon, I. 2015, p.54). However, changes in the questions and translation put very little impact on the sample, and students could easily understand English except for few words which I changed with their easy synonyms in the final version.

During the collection of data main concern was; "related to time, the length of the Questionnaire" (Estensen 2021) p.32). So, participants who took part in the pilot study had maximum time to finish data and the number of students was 7, 3 girls and 4 boys. Then the researcher asked a few questions like, are the questions too long or short? and the English language of questions is easy\understandable. The majority of students took almost 30 minutes, but the researcher demanded that students should complete the survey in 20 minutes. Because the principal of the school gave permission for one hour to complete all tasks so, the researcher

divided time into three parts, 10 minutes to give information about the material, 20 minutes for the questionnaire, and 30 minutes for the vocabulary test (a total of 60 minutes).

As a result of the students' questionnaire answers researcher made some changes. Firstly, the number of questions was reduced. for example, there were 26 questions that the researcher took from another thesis and now the number is 22. Secondly, the language of the survey was advanced which was rephrased to make it less tough. The tough vocabulary of questions creates misunderstanding and students could not give a proper answer which in turn made the result invalid. Thirdly, few open-ended questions were replaced with close-ended ones, because too much writing decrease the motivation of student while for close-ended questions; "response rate is likely to be higher and your data more reliable" (Advantages and Disadvantages of Open-Ended and Close-Ended Questions, 2021). These important factors helped the researcher to make a survey reliable, interesting, and attractive. In other words, a reasonable survey increased the motivation of students and they filled the questionnaire within time and with great responsibility. So, with the help of reliable data researchers could get precise and appropriate results.

In terms of vocabulary test, it has two parts Productive level test (18, fill in the blanks) and a vocabulary level test (10 match the words). The schools were in a small town in Pakistan so, participants had difficulty solving the second part (VLT) and took more time. Therefore, the researcher took out 5 questions and replaced some tough words with easy synonyms. In this way they could answer properly and within time as well.

To sum up, after the pilot, the study researcher made some changes in the data to increase its validity. The language, numbers, and type of questionnaire had changed to make the sample interesting. These changes improved the response rate as well which was useful for true findings. The vocabulary test was also improved to make it consistent. In other words, a pilot study was done to avoid confusion in data collection which in turn helped make the research accurate and effective.

3.5.2 Questionnaire

In terms of data collection if; "your questionnaire does not work well, then your results will be meaningless" (Christensen & Johnson, 2014, p. 307). After piloting the study, the researcher made an understandable survey that has both open-ended (qualitative), and close-ended

(quantitative) questions. Before starting the questionnaire, the researcher gave an oral presentation of ten minutes through Zoom call. That presentation had all information about time, and procedure -how they should answer- and the type of questions. The researcher also encouraged them to answer open-ended questions in full sentences according to their beliefs. All the time researcher was on Zoom to make sure that everything is clear, and if they had any trouble with questions they could ask.

Data were collected both qualitatively and quantitatively in one method. That method was a survey in the form of a questionnaire known as open-ended and close-ended questions. Consequently, the questionnaire (see appendix) started from the title of the thesis project; "The correlation between Extramural English (EE) activities and vocabulary growth in primary school students in Norway. After this researcher gave little information about herself, her institution, and about her project. In the last, the researcher presented info about how to complete the survey which was given orally as well. Moreover, there were 22 questions on paper in the English language, those questions were about the impact of Extramural English activities on the acquisition of vocabulary.

In addition, the survey in this project has data of mixed methodology. Open-ended questions collected data qualitatively, while close-ended questions gathered quantitative data. Let's express the term open-ended; "questions that require students to explain their thinking" (Husain, Bais, et al. 2012) p. 458). Here is an example of the type of question from a questionnaire of this thesis project;

Do you think English is an important subject? Answer in full sentences why you think English is important, or why you don't think it is important.

Students had an empty space under the question where they can write according to their beliefs. If their answer is yes, then they describe the reason in words. Sometimes questions; "may be too open-ended for the respondent to know what kind of information is being sought...... thereby leading to a refusal to complete the item" (Navarro Sada and Maldonado 2007) p.322). That's why the researcher included only four open-ended out of twenty-two and those were very crucial for precise results.

On the other hand, this survey has only dichotomous questions- a type of close-ended, which has only two options such as yes\no. The reason to use only one dichotomous question is that; "Requiring respondents to make a 'yes'/ 'no' decision may be inappropriate.....or "dichotomous question might build in respondent bias" (Navarro Sada and Maldonado 2007) p.323). However, the researcher used majority close-ended questions, as they are; "good for surveys, because you get higher response rates" (Farrell. S, 2016). A high participation rate means a large sample which is good for valid findings.

Here researcher explained different categories of close-ended questions. The main type is the rating scale as, the rating scale is extensively used in the research because; "They afford the researcher the freedom to fuse measurement with opinion, quantity and quality" (Navarro Sada and Maldonado 2007) p.327). Likert Scale is a sub-type of rating scale, this scale has some advantages such as data can be collected quickly with a large sample size, and collected data can be easily compared with others to get reliable results (Nemoto and Beglar 2014) p.2). For example, in this thesis project question about learning English at home has choices agree\disagree.

The numerical rating scale is one category of questions too such as questions about students' satisfaction with their vocabulary growth. Participants should rate answers from 1 to 10 i.e. 1 means very unsatisfied while 10 means very satisfied.

Students also give answers in methods such as multiple-choice questions where they select from different items and objects known as the semantic rating scale. An example of this category is 'which Extramural activities you used daily and participants must choose one of the activities or it could be all objects\choices.

In the last, some questions are about the timing such as time spent on EE activities and options from every day to never. To sum up, the survey has many types of open-ended and close-ended questions.

During the completion of the questionnaire, only one student was not interested and tried to copy other students' answers. However, to avoid any unreliability and inaccuracy of results the student was removed from research. Otherwise, all students tried their best to give reasonable answers which helps a lot in this study.

3.5.3 Vocabulary test

This research project used a vocabulary test of Pia Sundqvist's thesis about Extramural English activities and vocabulary acquisition of 9th grader Swedish students. That test consisted of two parts; a vocabulary level test (VLT) and a productive level test (PLT). Here is the example from this thesis's vocabulary test of both categories;

1: There are a doz..... eggs in the basket. (PLT)

- 1. Business
- 2. Clock part of a house
- 3. Horse something used for writing
- 4. Pencil animal with four legs
- 5. Shoe
- 6. Wall (VLT)

PLT section used to check the productive vocabulary e.g. words used to express themselves, while VLT measures receptive vocabulary e.g. words you understand during reading (Thinkmap, Inc., 2012).

The researcher made some changes after piloting the data. The first part PLT was ok for students during the pilot study and they completed it without any major issues. However, the second part VLT was a little bit difficult for her, as the researcher already mentioned that data was collected from the school of the small town where most of the students started to learn English in later classes. Thus, the researcher decreased the number of questions from the second section VLT and change tough vocabulary with easy words as well. Researchers tried to make the vocabulary test easy because tough tests could decrease the motivation of students. They just give answers with guesses and you could not check the true level of vocabulary. To sum up, participants completed the vocabulary test in 30 minutes with great enthusiasm and the all-time researcher was present on Zoom call.

3.6 Data analysis

The methodology used in this project is mixed i.e. qualitative & quantitative. Qualitative data was in the form of open-ended questions while quantitative data consists of close-ended questions and vocabulary tests. After the collection of data, it was analyzed also in both ways to get a result. To check the relationship between Extramural English activities and vocabulary growth data was first analyzed qualitatively and then quantitatively.

3.6.1 Qualitative data analysis

Qualitative data was in rough form first analysis and arrange in a manner that it could be analyzed quantitatively. To avoid any misunderstanding of open-ended questions researcher first arranges raw data in a meaningful way. That data was in Word form and students gave different answers so, organize them manually on one sheet. For example, the question about three favorite online games had different responses so; "arrange your research objective in a table so it appears visually clear" (Surendran, 2023). In other words, organize types of games and the number of players in such a way that could easily be analyzed quantitively such as PUBG is the favorite game of 20 students, etc. During analysis, there was a challenge of time because open-ended questions needed long answers. However, to avoid too much time consumption, the questionnaire of this thesis consisted of a few open-ended questions. To sum up, data was arranged qualitatively and could be analyzed quantitatively.

3.6.2 Quantitative data analysis

After organizing data qualitatively in different categories, the researcher analyzed data quantitively. That different types of objects can be variable; "Variable A condition or characteristic that can take on different values or categories" (Christensen & Johnson, 2014, p. 90). The data collected in this thesis has two variables i.e. independent & dependent and those work as a cause-effect relationship. In this project Extramural English activities (EE) are independent variables as; "that is presumed to cause a change to occur in another variable" (Christensen & Johnson, 2014, p. 91). Whereas, vocabulary acquisition is the dependent variable; "because changes in the independent variable tend to cause changes in the dependent variable" (Christensen & Johnson, 2014, p. 91). The title of this project is the relationship of EE

Activities and vocabulary acquisition so, to elaborate in more detail simple regression analysis is used by the researcher.

3.6.2.1 Simple linear regression analysis

According to Kumari & Yadav, "Linear regression is a statistical procedure for calculating the value of a dependent variable from an independent variable" Kumari, K., & Yadav, S. (2018). Here vocabulary growth is a dependent variable because Extramural English activities calculate the rate of vocabulary acquisition. The result can be both negative and positive because EE activities can ruin the vocabulary such as the use of slang words on Facebook and deteriorate formal words. So, EE activities as an independent variable measure vocabulary which is the dependent variable.

This analysis method finds two things. First, does the independent variable has any effect on the dependent variable? On the other hand, which variable put a significant impact on the outcome variable (Statistics Solutions, 2021)? Independent variables can be more than one while dependent is only one. For example, in this thesis, EE activities are more than one e.g. watching TV, film, web series, listening to music and book reading, etc. However, vocabulary is the dependent variable. In other words, with the help of linear regression analysis, researchers could find which activity had a greater impact on lexical growth. The measurement of linear regression variables was completed through Excel.

3.7 Validity and reliability

Threats to the validity cannot be finished completely but its impact can be lessened with a little bit more attention on research. Before exploring further let us know what the term 'validity' is? "the quality of being based on truth or reason, or of being able to be accepted" (Validity, 2023b). In the qualitative method validity can be checked by the honesty, dedication, and scope of the data while in the quantitative research process, careful sampling and appropriate statistical treatment of data is necessary for validity (Cohen et al., 2007 p. 133). If certain kinds such as "generalizability, replicability, and controllability" (Cohen et al., 2007 p.134) did not meet then that piece of research became invalid. The considerate research project, cautious data gathering, and suitable statistical examination are at the center of any study's internal validity (Kukull, W. A., & Ganguli, M. (2012). But the generalizability of the study depends on the researcher's

ability to separate 'relevant' information from 'irrelevant' info (Kukull, W. A., & Ganguli, M. (2012). When the researcher collects the data especially qualitative such as open-ended questions, participants give most of the irrelevant data. However, this is the researcher's responsibility to use only related info to get precise results. For example, in this thesis, the researcher asks about their favorite online games, but students tell about their favorite games which she\he plays on the ground as well. Thus, researchers should separate on-ground games from online. To sum up, it is the researcher's responsibility to choose only appropriate data to avoid the invalidity of the result.

To check the validity of qualitative data there are different methods:

Descriptive validity; "refers to the factual accuracy of the account" (Johnson, R. B. (1997) p. 4). It means, to check the reliability of data researcher should have knowledge that whether that event, object, and material exist in the real world or not. For example, according to this project as a researcher, one should have knowledge about EE activities in reality i.e. reading books, watching TV, and playing video games. In other words, descriptive validity refers to accuracy in reporting descriptive information (e.g., description of events, objects, behaviors, people, settings, times, and places) (Johnson, R. B. (1997) p. 4).

Interpretive Validity is the understanding of students' inner worlds and it refers to the degree of accuracy in presenting these inner worlds (Johnson, R. B. (1997) p. 4). In other words, researchers should see through the eyes of participants and understand through the mind of students. In this way, he\she could present accurate results. The best way to check this validity researcher should get feedback from participants. Students can tell whether they are agreed or not with your analysis which you have done from their data. However, this thesis researcher has not had enough time to send her project to participants for feedback. Thus, the researcher used a survey and vocabulary test from another's thesis so, the researcher compares the result to check its validity.

Appropriate instruments are used for the precise result so, "several instruments were chosen for this research study" (Estensen, V. (2021) p. 4). In this research project questionnaires and vocabulary tests are those instruments. These methods can give enriched data which in turn gives reliable results. The researcher did a pilot study which helps to improve the survey and vocabulary test. The improved version of the data increases the validity and reliability of the

research's findings. The questionnaire was in English language and after piloting the study those questions remain in English because students had no difficulty understanding the survey.

However, students had some problems with vocabulary tests so, the researcher made it a little bit easy after seeing the educational background of Pakistani schools. To avoid any unreliable result maximum sample size requires which is not possible due to inappropriate vocabulary tests. In other words, to retain validity researcher made the test easy so that all 30 students (sample size of this thesis) could complete it without any problem.

Besides, valid questionnaires and vocabulary tests students should answer properly as well. This requires motivated students, the researcher selected 15 girls' students out of 27 because they were interested to take part in the research. Those students could also understand English well and give reasonable answers which was according to this thesis. The researcher was also present on the zoom call to observe participants and help them if they have any confusion. "The researcher emphasized several times that it was really important that they answered as honestly as possible before and during the completion of the pupil's questionnaire and the vocabulary test" (Estensen, V. (2021) p. 42). The researcher observes all time and the two girls seems uninterested so, both were excluded from the research to get a reliable result.

In the end, the researcher put a check on data collection and used different strategies (discussed above) for the validity of data.

3.8 Ethical consideration

Research ethics means to; "make sure that participation in studies is voluntary, informed, and safe for research subjects" (Bhandari, 2022). Researchers should take care that; "physical, social, psychological and all other types of harm are kept to an absolute minimum" (Bhandari, 2022). This project used mixed methodology so, the researcher must know how to comfort the participants so that he\she could easily understand the whole procedure. In other words, the researcher should clear all types of insecurities to avoid uncomfortable situations and tell them all terms and conditions of the research as well.

The data collection method of this project is a survey i.e. questionnaire and vocabulary test. So, this is the researcher's responsibility that she explains all vital info about the project such as their personal data will remain anonymous, they can withdraw at any time from the survey, and all risk factors of research. For this research personal information such as name and gender are required so, the researcher gives information that during analysis their personal data remains anonymous. On the other hand, if they feel the vocabulary test is difficult, they can leave without thinking of any consequences.

In Pakistan, the researcher could not find any institution like NSD in Norway where she can get approval for data collection. Thus, only two things were considered by the researcher before the data. First permission from the school's principal and second consent from students' parents\guardians as they were under 18. The researcher sent the consent form to the principal through e-mail, she took print in the paper form and students brought those papers home for signature. On the consent form, there was all info about the research project such as type of data, their data will remain confidential, personal info remain unidentified and they can withdraw from research when they want. In other words, the researcher informed them about their rights and obligations. When parents gave permission then it was up to us i.e. researcher and the principle to decide the data collection date. However, the researcher also explained all written terms and conditions on the consent form orally before starting the survey and vocabulary test through Zoom.

4 Result

In this chapter section 4.1 explains the result of questionnaires while subsection 4.1.1 explains the students' thought about English language and English subject while 4.1.2 expresses student's belief about oral skills. Section 4.2 shows the findings of the vocabulary test whereas 4.3 explains the comparison of the vocabulary test with EE activities. The section 4.3.1 shows that how vocabulary growth relates with EE activities. In addition, 4.3.1.1 shows the impact of TV series, films on the vocabulary. The section 4.3.1.2 is about reading and vocabulary acquisition. 4.3.1.3 and 4.3.1.4 explain the impact of music and online digital games on the vocabulary growth. The last section 4.3.1.4 concerns about the student's belief about learning from digital games.

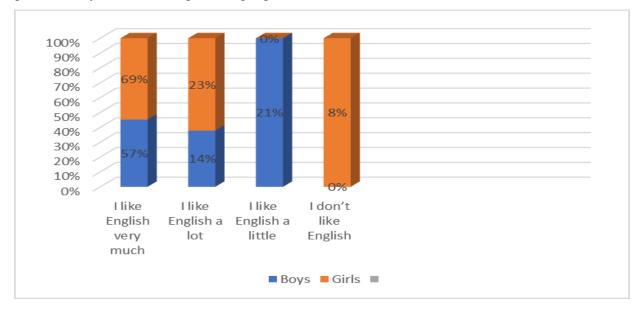
4.1 Questionnaire

Before presenting the results of the pupils' questionnaire, here is some background information. The sample size for the survey was 30 students but during the analysis survey, 3 students were eliminated from the research. In this thesis, the participant's number is 27; 14 boys and 13 girls. The questionnaire started with some background information about the researcher and her project. The first two questions were about the name and gender of students because this project had questions about gender differences and the impact of EE on vocabulary growth.

4.1.1 Pupils' thought about English language and English subject

Questions 1 & 2 are about the belief of students on English as a language and as a subject.

Question 1 is about the English language and students had chosen their liking of English between very much, a lot, a little bit, and do not like. Figure 1 explains, how well both genders-



girls and boys liked the English language too.

Figure 1. Question 1: How well do you like English?

Above figure discloses that all participants (both girls & boys) almost adored English except one girl who responded, "I don't like English". While one boy did not give an answer to this question as well. Interestingly, many students like English very much, i.e. 17 pupils out of 27. However, the response of five students was that they love English a lot whereas, only 3 students said they liked English a little bit.

The second item of the questionnaire is a qualitative question, where the researcher asked about the importance of English as a subject & language in full sentences. Most of the students gave answered that English is a very important language, especially boys. Boys wrote different reasons for the importance of English. There are reasons why pupils believed that English is significant.

- English helps to read poems and English books.
- English helps during travel abroad.
- · It is an international language.
- · It helps to communicate in this modern world, and we need it for the success in future.
- · English is used in the meetings of business.

• Interestingly, one student wrote that due to English he could be able to solve this questionnaire.

A total of 13 boys believed that English is an important language, while one student responded that English is not important, and we should use Urdu because it is our national language. Moreover, all 13 girls believed that English is important, because it improves their vocabulary, gives a lot of information about life, they need it for the future, and it is an international language.

4.1.2 Pupils' belief about their oral skills and vocabulary

Questionnaire items 3, 4, and 5 are used to measure students' oral skills, vocabulary growth, and communication with other people. There is a scale from 1 to 10, where 1 means English language skills are very bad, a scale of 2-3, means it is not so much good English level, 4-5 is for slightly good skills, 6 is a good level, 7-8 scale is about very good level while 9-10 point rates the level of English as excellent.

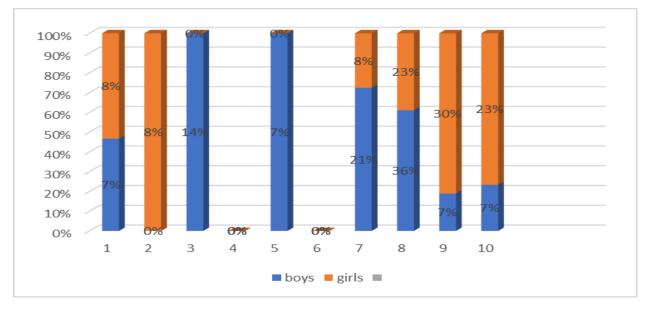
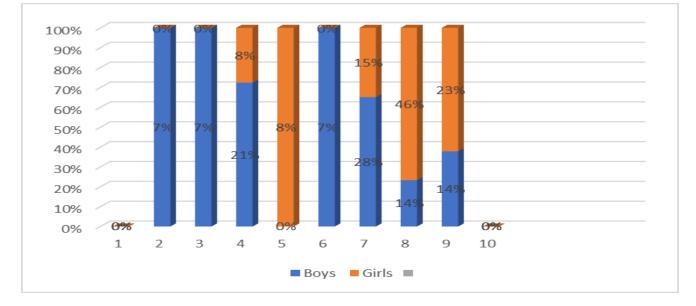


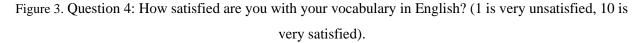
Figure 2. Question 3. How good do you think you oral English skills are? 1 is very bad and 10 is very good.

The above figure shows that 2 students responded that their oral skills are very bad, the communication skills level of three students is not very good, only one student is slightly good at

speaking, and the majority of students' communication level is very good, 12 pupils marked the points 7-8 in scale which means their English-speaking skills are very good. 9 students' performance is excellent in the context of their communication skills.

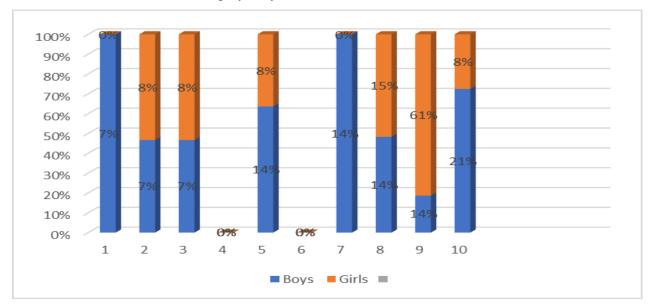
Questionnaire item 4 is about the satisfaction of pupils with their vocabulary growth. A scale of 1 to 10 measured the rate of satisfaction where 1 means highly unsatisfied, and 2-3 little bit satisfied, however, a scale of 4–5 means slightly satisfied, Moreover, 6 is used for satisfaction while 7-8 means very satisfied. In addition, 9-10 indicate that students are highly satisfied and believe that their rate of vocabulary acquisition is excellent.





The above figure explained that many students rated their vocabulary between 7-9 which means they were very highly satisfied, i.e. 19 students. Only 2 students were extremely unsatisfied, while two students wrote that they were a little bit satisfied as well. Moreover, 5 students showed a scale of partly satisfaction. In addition, only one student was just satisfied with the lexical growth.

Question 5 elaborated on how difficult or easy to communicate with others in English on a scale from 1-10. Scale 1 shows that it is extremely hard to talk, however, 2-3 means a little bit easy to communicate while 4-5 means slightly easy to speak with other people. Moreover, 6 shows that pupils easily speak English, whereas 7-8 means that students speak very easily. In addition, 9–10



shows that students think it is highly easy for them to talk with others.

Figure 4. Question 5: How easy or difficult do you think it is to talk to others in English? (1 is very difficult, 10 is very easy).

The above figure wrote that the majority of pupils, especially girls, find it very easy or highly easy to talk with other people. For example, 20 students' level was 7-10, of which 11 were girls. Four students found communication a little bit easy, while 3 students believed that it is partially easy to speak. In the end, no one wrote that speaking with others is easy.

Question 6 asked the students which element is most crucial for learning English

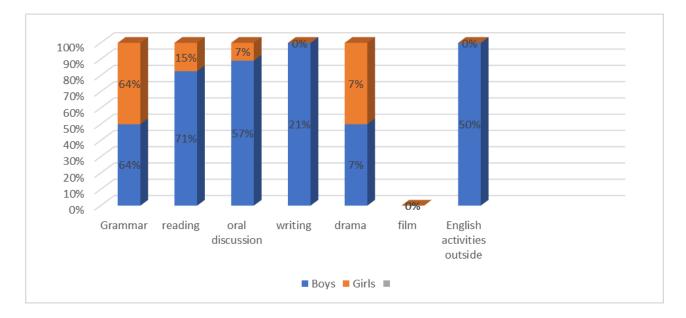
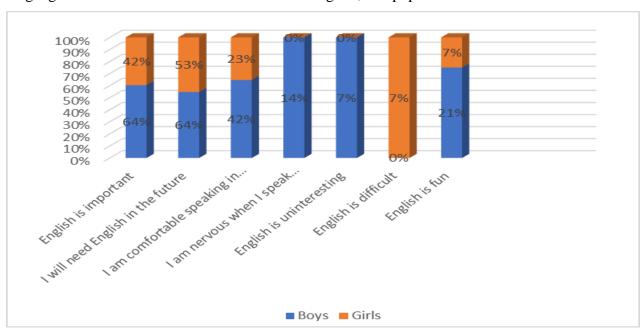


Figure 5. Question 6: Which of these elements are most important to you in learning English? (check all the boxes if you think they are all important).

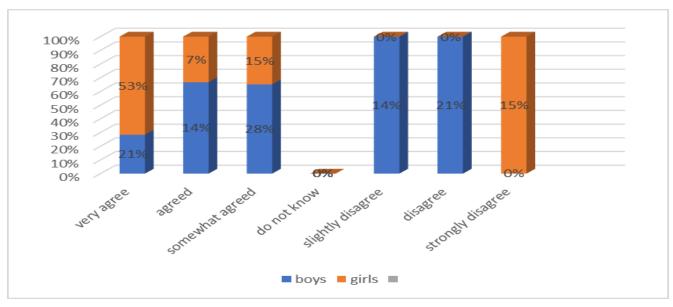
The result of item 5 elaborated that grammar is the most important activity for many students. Almost 18 students reported that they learn English from grammar. While reading was the second vital activity such as 12 students wrote that this activity plays a vital role in learning. Moreover, 9 students believed that oral discussion is important whereas, English activities outside the school were important for 7 students. The writing was important for 3 students, and one student reported that drama is a vital activity. In addition, 0 students felt that film is important for learning.



Question 7 of this survey was about the students' opinions regarding the English language. There were several statements about English, and pupils had chosen from them.

Figure 6. Question 7: Here are several statements about English, tick all the boxes that you agree with.

Figure 6 elaborated that many students believed that English was an important language for their future. In other words, 15 students answered that the 'English language is important, moreover, 16 pupils believed that they need English in the future. The answer of 9 students was that they felt comfortable during the talk, whereas two students stated that they were nervous during the conversation. In addition, 3 students had a feeling that the English language was fun. Interestingly, only one pupil believed that English was uninteresting, and just one student had a school of thought that English was difficult as well.



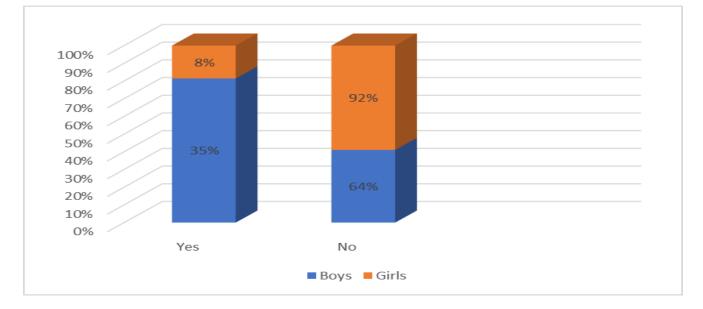
Question 8 concerned to what degree the students agreed with this statement 'I learn English best at home'. The scale was from very agree to strongly disagree.

Figure 7. Question 8: I learn English best at home (do you agree or not).

Figure 7 showed that a maximum number of students reported that they agree with the statement 'I learn English best at home'. The numbers of students who slightly disagree (2) and strongly disagree (2) were the same. Moreover, six students stated that they somewhat agree that they learn English more at home, while three students agree with the statement. However, the students who disagree that they learn English more outside the school means home were three. In addition, no one answered 'do not know' which means that every student had an opinion such as agreed or disagreed.

Questionnaire item 9 was an open-ended qualitative question in which students were asked by the researcher how they had thought they learned English best. Interestingly, many students believed that they learned English through oral discussion in class. Ten students said that teacher they learned from class and then speak outside the class with their friends. In addition, two students from above ten wrote that they speak comfortably with others. Although activities performed by the students in the class are not EE activities, 5 students also believed that they learned English in class with the help of teachers. Teachers gave feedback, which was helpful for communication. Two students stated that reading was a very useful activity for them to learn English. They learned novels and encountered many unknown words. The students could check the meaning of unfamiliar words with the help of a dictionary. So, reading, especially extensive reading, was the second reason for learning English. Five students did not answer properly, as they just wrote that they learn English for their future. They did not mention the way of learning.

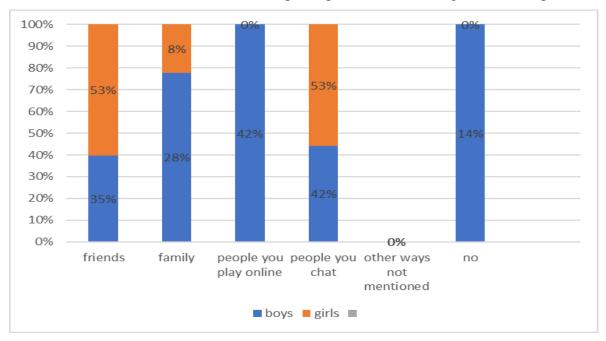
In the end, only one student argued that he\she learned English from school where he\she had taught English as a subject. Surprisingly, no one answered that they learned English by watching films and playing video games.



Question 10 asked from the students about the visit to any country where they speak English.

Figure 8. Question 10: Have you been to any countries where you had to speak English?

Figure 8 showed that the majority of students in Pakistan, especially girls, did not visit any country where they had to speak English. Only six students wrote 'yes' while 21 pupils, making it a sum of 77% never visited any other country.



Question 11 shows that who do the participants talk in the English in their spare time.

Figure 8. Question 11. Who do you speak English within your spare time? (tick all that apply).

Figure 8 shows that 12 participants wrote that they had spoken English with their friends. In addition, the number of students who had a conversation in English with their family was 5. 6 students wrote that they had spoken English during online games, while 13 students chatted with other people in English. However, there was no student who said, 'Other ways not mentioned'. In the end, two students wrote that they did not speak English in their spare time. Question 12 was also related to the previous question 11. This question asked how often the pupils communicate in their spare time. communicate in their spare time.

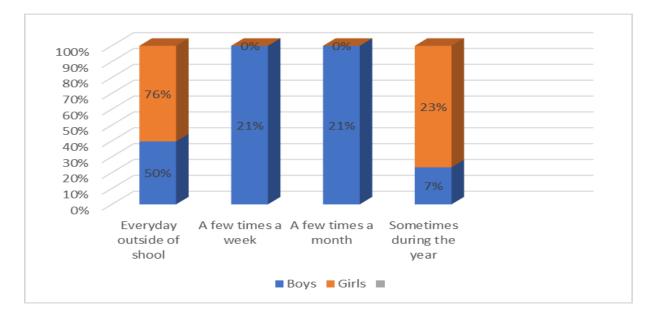


Figure 9. Question 12: How often do you speak English in your spare time?

The answer to question 12 in Figure 9 shows that 17 students wrote that they had spoken English every day outside of school. However, the response of 'a few times a week (3 students) and few times a month (3 pupils)' were the same. In addition, 4 students responded that they had spoken in English 'sometimes during the year'.

Question 13 gave an overview about the types of Extramural English activities of 9th grader students of Pakistan.

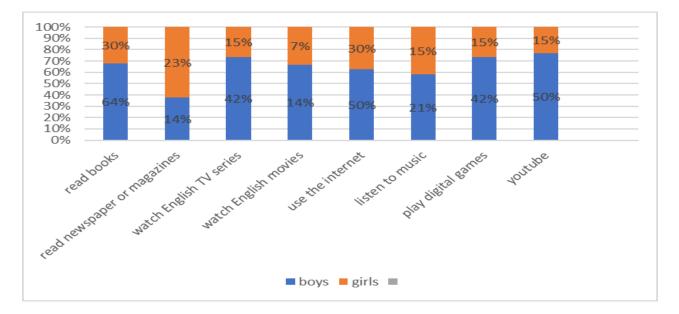
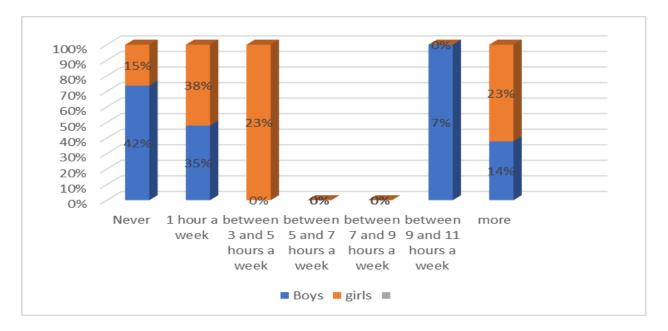


Figure 10. Question 13. What English activities do you do in your spare time? (tick all the boxes that apply to you).

Figure 10 shows that reading is the EE activity which the majority of students did in their spare time, 13 students answered they had read books. In addition, the second activity which participants preferred to do was internet use, i.e. 11 students used the internet in their extra time. Moreover, the response of 8 pupils was 'watching English TV series while 8 participants played the online digital game as an Extramural English activity. Although, reading books was a popular EE activity, only 5 students had read newspapers or magazines. Furthermore, the number of students who watched English movies was 3, and it was the least activity done by students. The students who spend their time listening to music were 5. In the end, 9 pupils' EE activity was to watch anything from YouTube.

Questionnaire item 14 is the open-ended qualitative question which is related to question 13. Question 13 was a multiple-choice question that had some EE activities, while in this question the researcher had asked about any EE activity which was not mentioned in the previous question. However, chatting with friends and family or text messages in English was what most of the students did in their spare time. For example, 12 pupils wrote they talked in English with their friends or family on phone calls and text messages through Facebook. The nine students responded that all EE activities they did were mentioned already in question 13. In addition, one student said that he had read novels in the Urdu language, while two students wrote that they went to the teacher's house for learning English. But learning from teachers was not an Extramural English activity according to the definition of EE in this thesis, which means 'learning without teacher's instruction.



Question number 15 concerned 'how often students watch English TV series and films.

Figure 10. Question 15. How often do you watch English TV series or films?

The above figure shows that the majority of students, 10 pupils, had watched English TV series or films for almost 1 hour a week. In addition, 8 students wrote that they had never watched English movies or series. The number of students who had spent time between 3 and 5 hours a week was 3. Moreover, 5 students responded that they watched the English series more than 11 hours a week.

Questionnaire item 16 was about the rate of learning English through the English movies and dramas.

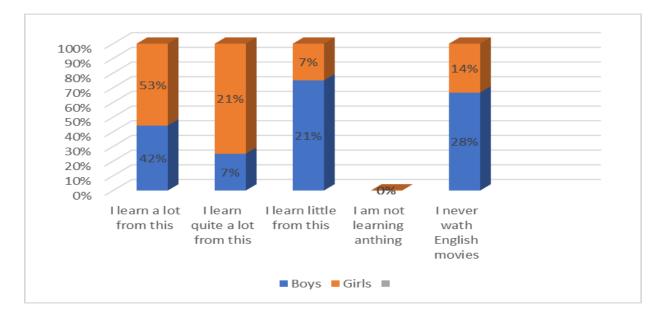


Figure 11. Question 16. Do you feel that you are learning English by watching English films, TV series or videos online (YouTube)?

The above figure explains, interestingly, that many students learned a lot from the English movies and series, i.e. 13 students. In addition, 4 students believed that they learned quite a lot, while 4 students wrote students learned little from English movies and plays. Moreover, 6 students never watched English TV series and films.

Question 17 was about how often students had read online newspaper and other material instead of the book in the paper form.

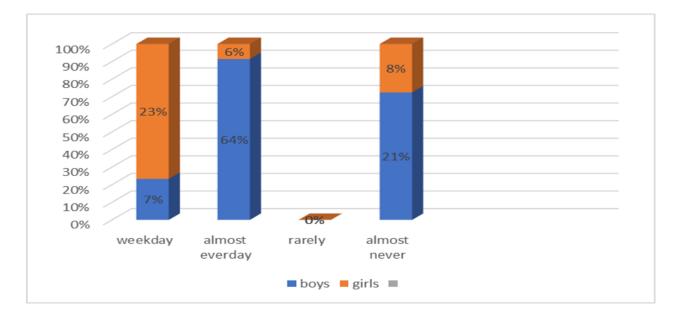


Figure 12. Question 17. How often do you read in English? (Doesn't have to be a book, it can be internet newspapers etc.).

Figure 12 shows that 18 students read online newspapers or other material almost every day. However, 4 students responded that they had read online material on weekdays. In addition, four students said that they never read online newspapers and always preferred newspapers in paper form.

Questionnaire item 18 concerned about the learning of English by listening to the English music.

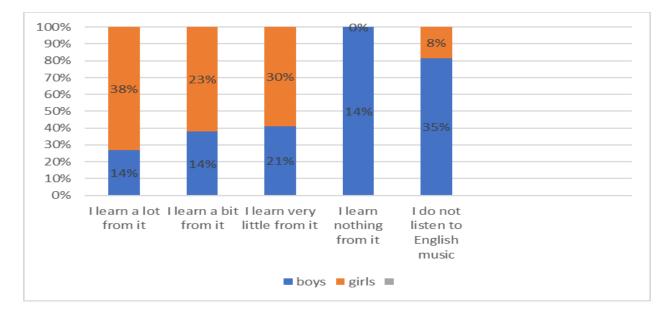
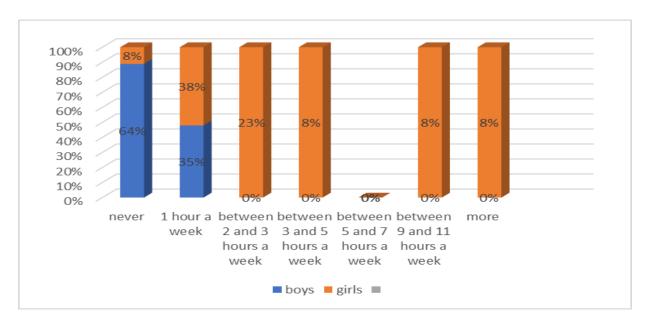


Figure 13. Question 18. Do you feel that you are learning English by listening to English music?

Figure 13 shows that the number of students who wrote that 'I learned a lot from music' and 'I learned very little from it' were the same, i.e. 7. In addition, six students wrote that they had never listened to English music. However, the five students believed that learned a bit from music, while two students had learned nothing from it.



Questionnaire item 19 was about how much time students had listened to The English music?

Figure 14. Question 19. How often do you think you listen to English music?

Figure 14 shows that 10 students had given the answer that they never listened to English music. However, 10 pupils responded that they listened to the music for 1 hour a week. In addition, three students listened to the music between 2 and 3 hours a week. Thus, the numbers of participants who listened to music between 3 and 5 hours a week and between 9 and 11 hours a week were the same, i.e. 1. In the end, only one student said that he\she had listened to the music more than 11 hours a week.

Questionnaire item 20 was about timing of online digital games. In other words, how much time students had spent on digital games.

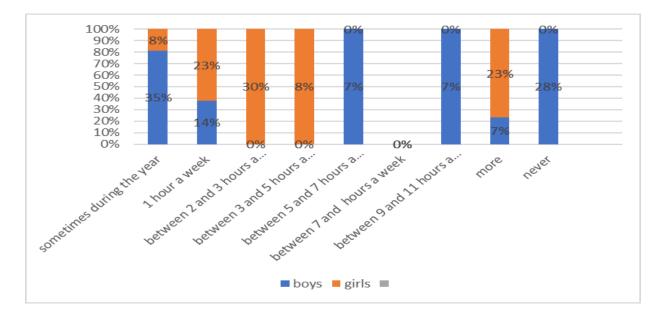
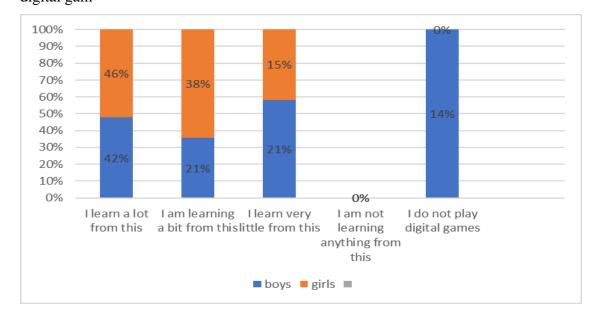


Figure 15. Question 20. How often do you play digital games in English?

The above figure shows that the majority of the students had given less time to digital games in Pakistan. For example, six students wrote that they had played online digital games 'sometimes during the year'. In addition, the four students had never played online games, while four students had spent more than 11 hours a week playing games. Moreover, five students spent 1 hour a week on games, while four students played video games between 2 and 3 hours a week. Interestingly, the number of students who played video games between 3 and 5 hours, between 5 and 7 hours, and between 9 and 11 hours per week were the same, i.e. 1.



Question 21 concerned the student's belief that they learned the English from online digital gam

Figure 16. Question 21. Do you feel like you're learning English when you play digital games?

According to Figure 16, twelve students learned a lot from digital games. Moreover, the response of 8 students was, 'We were learning a bit from the games. Whereas, five students had learned very little from online digital games. In addition, only two students gave the answer that they do not play games because they do not like online digital games.

Question 22 was the last question of the survey, which was an open-ended qualitative question. This question asked students, 'Write down your three favorite games. For example, PUBG and Fortnite'. The answer to that question shows that students had played a variety of games, but few were more popular among the participants. For example, Candy Crush was the favorite game of many students, 13 students liked this game. In addition, the second, important game for students was PUBG and 11 students played that game. Moreover, the number of students who liked online cricket games and Free Fire was the same, i.e. 6. In the end, eight pupils' favorite online game was 8-ball pool.

4.2 Vocabulary test

In the vocabulary test, 27 students had participated. The vocabulary test had two parts, with points 18 (Part 1) and scores 15 (Part 2). In other words, the total points of the whole test were

33. Unfortunately, no one could score full points such as 33. Moreover, only one student received 32 points, which was the highest score on the vocabulary test. In addition, two students

out of twenty-seven scored 31. However, 4 out of 27 students managed to get more than 30 points, while the number of students who gained scores less than 10 was 0. In other words, the least score on the vocabulary test was 11. Furthermore, 25 students out of 27 scored more than 15 while 16 pupils out of 27 received more than 20 points. To summarize, the overall, result of the vocabulary test was high. The total mean score of the whole vocabulary test was (M = 21.9) points and had a standard deviation of (SD = 6.6) scores.

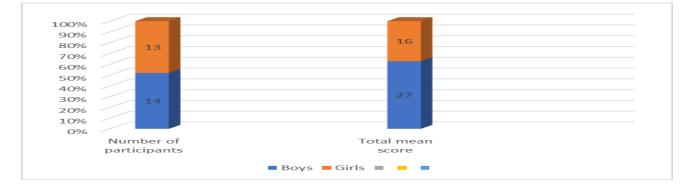
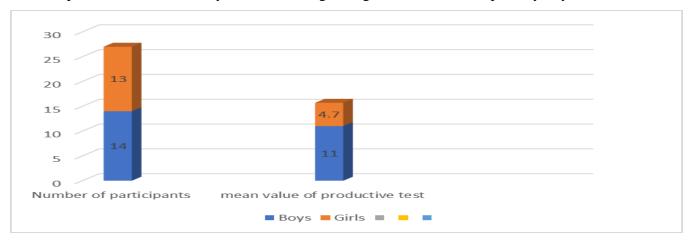


Figure 17 reveals total mean value of vocabulary test by gender

The participants had taken part in the vocabulary test consisted of 14 boys and 13 girls. The above figure showed that boys' performance was better than girls' in both parts of the Vocabulary test. The main value of the boys' test was (M =27) with individual variance (SD =3.8). In addition, the girls' total main score was (M = 16) and the standard deviation was (SD =3.7). To summarize, 16 students out of 27 had scored 20 points or more and almost 13 pupils were boys. Interestingly, only one student received 32 points out of 33 on the vocabulary test, and that was a boy.

As mentioned above, this vocabulary test had two parts. For example, one section measured productive vocabulary known as the 'productive level test' while the second one was used to measure receptive vocabulary named the 'vocabulary level test'. The total points one could get from Part 1 was 18. The analysis of the vocabulary test showed that boys performed part 1 very better than girls, for boys' main value with individual variation was (M =11, SD =4.3) and girls' main score with deviation was (M =4.7, SD =3.3). In addition, 3 boys could secure 17



points out of 18 while the highest score of girls was 10 out of 18. To summarize, the overall result of part 1 showed that many students managed to give the answers, especially boys.

Figure 18 Mean value of productive level test wrote by gender

The above figure further illustrated that boys received significantly higher points (M =11) as compared to girls (M =4.7). In addition, the difference between boys and girls in part 1 was higher, 6.3. The individual variation for the boys was slightly higher (SD =4.3) than for girls (SD =3.3). In other words, the points between the boys varied a bit more than between girls. In the end, the overall result of part 1 showed that boys performed very better than girls in productive-level tests. Moreover, the number of students who had gotten full points (18 out of 18) was zero, and the highest score was received by 3 boys.

The second part (part 2) known as vocabulary level test which had total 15 points.

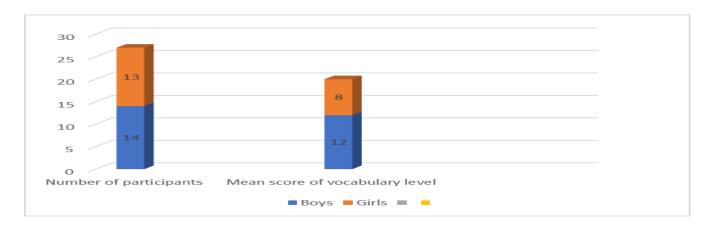


Figure 20. The mean value of vocabulary level test shown by gender

Figure 20 showed that in the vocabulary level test boys outperformed with the main score of the result M=12. In other words, 4 out of 14 boys had received full points, 15 out of 15 in the test. In addition, 7 pupils had scored maximum points above 10 and the least point one could get was 8. However, the overall result of the vocabulary level test of boys was higher than girls. Thus, the main score of the girls' vocabulary level test was M=8 with the individual difference of SD=2.1. Interestingly, the highest score one could get from a total of 15 points was 11, and the number of girls was only 4 out of 13. Moreover, 6 students had received scores below 10 on the test. In the end, the individual difference value between girls and boys were the same with slight difference. In other words, the SD value of boys was 2.3 while girls had an SD value of 2.1 and the difference was just 0.2.

4.3 Comparison of Questionnaire answers with result of vocabulary test

The purpose of this section is to find whether there is a correlation between Extramural English activities with vocabulary growth or not. According to the findings in the questionnaire, the researcher divided students into four groups in the context of time spent by students on Extramural English. The first group is known as the 'low-frequency group' which means students spent little to no time. In addition, the second group was the 'Moderate group' who had spent slightly more time on EE. Whereas, 'the high-frequency group (3) spent more time on Extramural activities. In the end, the 4th group was a very high-frequency group, which meant that they had spent more than high or almost every time in the day. The below table is one example of those groups. Question 12 of the survey asked about the timing of English speaking in spare time. The participants (1 boy and 3 girls) who had spent 'sometimes during the year' were a low-frequency group. In addition, the number of students who spoke a few times a month was 3 boys and 0 girls, known as the moderate group. Moreover, 3 students in the high-frequency group (3 boys and 0 girls) had spoken a few times a week. Interestingly, the group of 7 boys and 10 girls who communicated in English every day is called the very high-frequency

group.

Column1 🔽 Column2 💌	Column3 💌	Column4 💌	Column5 💌	Column6 💌	Column7 💌
Groups		Boys	Girls	Total	
Low-frequency group		1	3	4	
Moderate group		3	0) 3	
High frequency group		3	0) 3	
very high frequency grou	р	7	10) 17	,
Total Participants		14	13	27	

Table 1. four groups of students according to their English-speaking time

Table 2 showed the students' time spent on the English communication and its relationship with their vocabulary test result.

Group	English	Total number of	Mean score of	Individual
	speaking in	participants =N	vocabulary test	variation
	spare time		= M	=SD
Low-frequency	Sometimes	N =4	M =20.5	SD =3.1
groups	during the year	(1 +3)		
Moderate group	A few times a	N =3	M=25	SD=4
	month	(3 +0)		
High frequency	A few times a	N =3	M=29	SD=3.4
group	week	(3 +0)		
Very high	Everyday outside	N =17	M=18.3	SD=6.4
frequency group	of school	(7 +10)		

The above table explained that the majority of students (17) especially girls (10) had spoken in English almost every day outside the school. However, the main score of the very high-frequency group's vocabulary test was (M=18.3) which was low compared to the other groups. The individual variation SD=6.4 of the last group was also high because of the girl's participation. In other words, girls scored not so good on the vocabulary test, only 1 girl out of 10 scored 20. To summarize, students who had spoken a few times a week scored the highest main value on the vocabulary test, and all were boys. The boys had a better vocabulary than girls, even though more girls had spoken English outside the school.

4.3.1 Vocabulary growth in the context of EE activities

This section explained the analysis of different EE activities and their impact on the main score of vocabulary tests of both genders. The sub-section 4.3.1.1 showed how often the students had seen English TV series or films and their relationship with the student's main score on the vocabulary test. Furthermore, sub-section 4.3.1.2 compared the result of vocabulary tests with students' online reading. However, the next sub-section (4.3.1.3) explained the correlation between English music and vocabulary test results of both genders. In addition, sub-section 4.3.1.4 showed the relationship between time spent on online digital games and the main value of vocabulary tests. In the end, subsection 4.3.1.5 expressed the students' beliefs about learning English through online digital video games

4.3.1.1 English TV series, films and their impact on vocabulary

The researcher divided students into four groups regarding the correlation between the students' exposure to Extramural English activities and vocabulary growth. First, there is a relation between the time spent on English movies, TV, and vocabulary acquisition. The first group is known as the 'low-frequency group' who spent no time or 1 hour a week watching English films or TV series. The second was named 'moderate group' where students watched English series almost between 3 and 5 or 5 and 7 hours per week. Moreover, the pupils who spent time between 7 and 9 or 9 and 11 hours per week on TV were in the 'high-frequency group'. In addition, the 'very high-frequency group' was who had spent more than 9 hours per week on TV.

Group	Total	Boys mean	Boys	Girls mean	Girls
	participants	score of	individual	score of	standard
		VOC test	variance	VOC test	deviation
Low	N=18	M=26.4	SD =4.0	M =15.1	SD =4.5
frequency	(11+7)				
Moderate	N =3	None	None	M =15.6	SD =3.2
group	(0 +3)				
High	N =1	None	None	None	None
frequency	(1 +0)				
Very high	N =5	M=28.5	SD =0.7	M=13.3	SD =4.0
frequency	(2+3)				

Table 2 impact of the English TV series and films on vocabulary growth of both genders

The above table showed that the majority of the students had watched English TV series and films for less than 1 hour, 17 students, 11 were boys. However, the vocabulary test result showed that the boys performed very well on the test as compared to the girls. For example, the total main score of boys was M=26.4, higher than girls' mean score of vocabulary M =15.1. Moreover, there was a minimal difference between the individual variation of both genders, girls' SD value was only 0.5 points higher than boys. Whereas, the standard deviation values of separate girls (4.5) and boys (4.0) were high. In addition, the numbers of students who had spent more than 11 hours were 5, 2 boys and 3 girls. Interestingly, the main score of boys' vocabulary test was much higher than girls. In other words, the boys' main value was M=28.5 with an individual difference of SD =0.7 while M= 13.3 with a variation of SD =4.0 were the girls' main score. Table 2 showed that some students were in the moderate and high-frequency group (see the main score and variance in Table 2) but their participants were few as compared to the other two groups. To sum up, overall, students spent less or no time watching English movies and TV series.

4.3.1.2 Reading and vocabulary acquisition

In this section, the researcher made four groups about how much time students spent on online reading, i.e. newspapers. Firstly, the group who never read online is known as the low-frequency group. Moreover, the students who had read rarely online newspapers were categorized as the

moderate group. However, the third group was the students who had spent time reading on weekdays, they were called the high-frequency group. In addition, the students who had read online material almost every day were named a very high-frequency group. See Table three for further details.

Group	Total participants	Boys mean score of VOC test	Boys individual variance	Girls mean score of VOC test	Girls individual variance
Low frequency	N =4 (3+1)	M =26	SD = 4.3	None	None
Moderate group	N= 1 (1 +0)	None	None	None	None
High frequency	N= 5 (1+4)	None	None	M =16.5	SD =3.7
Very high frequency	N=17 (9 +8)	M =27.7	SD =4.0	M =16.1	SD =4.0

Table 3 relation between reading and vocabulary of both genders

Table 3 showed that the preferred Extramural English activity for the students was reading, especially online. Interestingly, 17 students, including boys and 8 girls, had responded that they had read nearly every day. However, the comparison of the result of the vocabulary test with the very high-frequency group showed that boys had received higher scores than girls. In other words, the total main score of the boys' vocabulary test was M = 27.7 while the girl's test's main value was M = 16.1. In addition, the individual variation SD of both genders was the same, i.e. SD=4.0. Three students who never read books, especially online, had received good main values of vocabulary tests 'such as M = 26. To summarize, whether students especially boys had read online so much or not, they scored high on the vocabulary test as compared to girls.

4.3.1.3 Correlation of music and vocabulary growth

The researcher made four groups according to the time spent listening to music. The first group (Low-frequency group) was the group in which those students were placed who had listened to music for 0 to 1 hour per week. Moreover, in the moderate group, students spent time between 2

and 5 hours in the week to listen to music. Thus, the group where pupils had spent time between 5 and 11 hours per week was known as a high-frequency group. In addition, in the very high-frequency group, students listened to music for more than 11 hours.

Group	Total	Boys mean	Boys	Girls mean	Girls
	participants	score of	individual	score of	individual
		VOC test	variance	VOC test	variance
Low	N =20	M = 27	SD =3.8	M =19	SD =1.26
frequency	(14 +6)				
Moderate	N =4	None	None	M =16.5	SD =3.0
group	(0+4)				
High	N =0	None	None	None	None
frequency					
Very high	N =3	None	None	M =11	SD =0
frequency	(0+3)				

Table 4 time to listen music and vocabulary growth of both genders

Table 4 showed that English music was the least popular activity among 9th grader students in Pakistan. In other words, the majority of students listened to English music between 0 and 1 hour per week. For example, 20 out of 27 including 14 boys, came in the low frequency group. Although boys had listened to less music, the main score of their vocabulary test was high, M = 27 while the girl's main value was M = 19. In other words, from the same lowfrequency group, boys performed well than girls. Moreover, individual variation among boys' scores on vocabulary tests was also high (SD =3.8) as compared to the girls' standard deviation SD =1.26. In addition, the number of boys who had spent time listening to English music between 2 and 11 or more hours per week was 0. However, 4 girls had listened to the music between 2 and two hours per week and their main score on the vocabulary test was M = 16.5 with SD =3.0. In the last, the main score of girls who had spent more than 11 hours to listen to music was M = 11 with 0 individual variations. To sum up, the boys' main value of the vocabulary test was high, even though they listened to the music very less.

4.3.1.4 Online digital games and vocabulary acquisition

The students had been divided into four groups according to the answer to the question 'How often do you play digital games in English? First, a low-frequency group where students had played digital games never, sometimes during the year, and 1 hour a week. In addition, the moderate group consisted of pupils who played online games between 2 and 5 hours per week. Whereas the group who had played games between 5 and 9 hours per week was known as a high-frequency group. In addition, the students who had spent time 11 hours or more in a week on games came in the very high-frequency group.

Group	Total	Boys mean	Boys	Girls mean	Girls
	participants	score of	individual	score of	individual
		VOC test	variance	VOC test	variance
Low	N = 14	M =27.2	SD =3.3	M =12	SD =6.7
frequency	(10+4)				
Moderate	N =7	M =23.5	SD =6.3	M =18.8	SD =1.3
group	(2 +5)				
High	N =0	M = None	SD =None	M =None	SD =None
frequency					
Very high	N =6	M =30	SD =1.4	M =12.7	SD =3.5
frequency	(2+4)				

Table 5 digital online game and their relationship with vocabulary growth

Question 21 in the questionnaire (see appendix) was about how often students play digital games in the English language. So, according to the students' answers, the majority of the boys who had played online digital games had played between 0 and 1 hour per week. For example, 10 boys out of 27 students had played games in the English language for less than 2 hours per week. But, their average main score on the vocabulary test was significantly higher (M =27.2) than girls (M =12) who had spent the same time, i.e. less than 2 hours per week. However, 6 students including 2 boys and 4 girls played online digital games a lot, i.e. 11 or more hours per week. Interestingly, the girls could not get even half of the main score of boys on the vocabulary test. For example, the main value of the boys' vocabulary test was M =30 with SD =1.4 while M =12.7 was the main score of girls and the individual variation between the main score of girls

was SD =3.5. The main score of moderate group students was M =23.5 (boys) and M =18.8 (girls). To summarize, boys performed very well even though they had spent much less time on games. But boys who played online games in the English language more than 11 hours a week gained slightly higher scores (M =30) than low frequency (M =27.2) and moderate groups (M =23.5). However, in the case of girls, there was little difference between the scores of the low-frequency group (M =12) and the very high-frequency group (M =12.7).

4.3.1.5 Students' belief on online digital games and vocabulary learning

This section explained the students' beliefs about learning English vocabulary through online digital games. The researcher categorizes students into low-frequency groups who believed that they do not play English games or did not learn anything from Online games. Moreover, students who had learned very little from digital games, known as the moderate group. However, the high-frequency group consisted of students who had learned a bit from online games. In the end, the group of students who had learned a lot from online digital English games called high-frequency group.

Group	Total	Boys mean	Boys	Girls mean	Girls
	participants	score of	individual	score of	individual
		VOC test	variance	VOC test	variance
Low	N =4	M =27.5	SD =4.7	None	None
frequency	(4+0)				
Moderate	N =6	M =27	SD =2.6	M =17	SD =4.3
group	(3+3)				
High	N =7	M =25.3	SD =6.0	M =24.6	SD =7.2
frequency	(3+4)				
Very high	N =10	M =28.2	SD =2.4	M =14.6	SD =3.4
frequency	(4+6)				

Table 6 English learning through online digital games

Table 6 showed that almost boys from each group had scored a high main value on the vocabulary test. For example, 4 students out of 14 from the low-frequency group had a mean score of the vocabulary test M =27.5 while the individual variation was SD =4.7. Moreover, the main score of boys in the moderate group was M =27 with SD =2.6. The average main values of

both boys and girls in the high-frequency group were M = 25.3 and M = 24.6. Thus, the individual variance of both boys (SD =6.0) and girls (SD =7.2) was high. In addition, those girls who believed that they had learned a lot had an overall lower result main score than boys of the same group. In other words, girls in the moderate group received a mean score of the vocabulary test M = 17 while boys in the same group had M = 27. In the end, the students who said that they had learned a lot from the games consisted of 4 boys (M = 28.2) and 6 girls (M = 14.6). To sum up, the number of boys who said that they had learned nothing and had learned a lot was the same. However, students who believed that they had learned a lot (M = 28.2) from online digital games scored the vocabulary test a little bit higher than those who said that they did not learn anything (M = 27.5) from games. In contrast, the girls in the high-frequency group had a main vocabulary score of (M = 14.6), a lower score as compared to the moderate group (M = 17).

To summarize, during analysis the researcher arranged the data in two types such as time spent on different activities and the main value of the vocabulary test. In other words, the researcher calculated how much time students spent on different Extramural English activities and their impact on vocabulary acquisition. However, the findings of the data showed that the average main scores of boys' vocabulary tests in four groups (low frequency, moderate, high, and very high) were high as compared to girls for each type of EE activity. In addition, reading was the most popular EE activity among students while listening to English music was the least popular activity among students of both genders. In the end, for both boys and girls, the students who had spent more time on EE activities scored higher on the vocabulary test than the students who had spent less time on Extramural English activities.

5 Discussion

This section explained the result of the vocabulary test and questionnaire in more detail. In other words, section 4 of this thesis showed the result of the survey and vocabulary test whereas this part elaborated on those findings. The researcher also relates the findings of this thesis with different theories mentioned in Chapter 2 (literature review). In addition, this section also compared the results with the previous research that the researcher had used in this thesis. In the end, the discussion section addresses the following research questions.

1. Do EE activities lead to vocabulary growth in second language (L2) English in high school students in the Pakistan?

2. Does the amount of exposure to L2 English in EE activities play a role, i.e., does an increased number of hours in EE lead to an increase in vocabulary growth?

3. Does the type of activity play a role, i.e., do some activities have a higher impact on vocabulary growth in L2 English than others?

4. Is there a correlation (positive or negative) between EE activities, vocabulary growth and gender?

Section 5.1 explains that Extramural English activities help to improve the vocabulary of 9th-grade Pakistani students. Moreover, the next section 5.2 discusses the time (exposure) of EE activities and their relationship with vocabulary acquisition. Whereas, section 5.3 addresses the role of EE activities type and their impact on vocabulary growth. Lastly, section 5.4 explains the relation between the Extramural English activities and vocabulary growth of both genders i.e. boys and girls.

5.1 Extramural English activities and vocabulary growth

This section gives the answer to the first research question that Extramural English activities help to improve the second language vocabulary of 9th grade students. However, the students had filled out the survey and question 4 (see appendix) was about vocabulary growth. The answer to that question revealed that a total of 15 out of 27 students (55%) were satisfied with their vocabulary growth. In other words, the researcher used the questionnaire from the thesis of

Estensen (2021) and his findings on the question about satisfaction with vocabulary growth were the same as well. In addition, a major percentage of students (57%) were more than satisfied. Although, on a rating scale from 1 to 10, in both theses, most of the students had checked numbers 7 and 8 which means very or more than satisfied.

The question is whether EE activities helped to improve vocabulary, overall results showed that Extramural English activities had helped vocabulary acquisition. Interestingly, all previous research about EE activities and vocabulary growth in the Pakistani context had a positive correlation. In other words, this thesis mentioned two studies conducted to check Pakistani students' vocabulary. But that studies only mentioned the impact of mobiles and online games on vocabulary while both EE activities such as mobile and online games had a positive impact on vocabulary.

First, discusses the findings of exposure to online digital games and their relationship with vocabulary acquisition. Moreover, a total of 8, (29%) students had played video games, and their vocabulary score was also high, their main score on the vocabulary test was M=25. In other words, these findings were quite similar to Asifa's (2021) research where 35.5% of students with age 14 years (all boys) responded that they learned vocabulary from online games. Although Asifa's research was about boys, so researcher of this study compared the result of boys-aged 14 years only. In other words, 47% of students who had played online games (in Asifa's study) expressed that their English level was advanced. In the same way, the boys (42%) who had played online games (in this study) also scored high main values in the vocabulary test such as M=28.6. In other words, the students especially boys' English level was advanced and there was a positive correlation between EE activities and vocabulary acquisition.

Furthermore, the study of Asifa showed that students who had spent less time on digital games performed well as compared to those who had played a lot. In other words, this finding of Asifa's article was same as the result of this thesis such as students who (51%) had spent less than one hour performed well than those who had played between 2 to 7 hours per week. However, if students had played for more than 11 hours then they had acquired a vocabulary of an advanced level and this point contradicts the Asifa's result. To summarize, overall, the Extramural English activities helped students to improve their vocabulary.

5.2 Exposure to EE activities and vocabulary growth

The comparison of the questionnaire and vocabulary test results showed that there was a positive correlation between Extramural English activities and vocabulary acquisition. In addition, most of the students had spent 0 to an hour per week on different activities while the second highest amount of exposure was 11 hours or more. However, the least number of hours spent by the students was between 5 to 9 hours a week. In other words, this thesis has a comparison of the students from low-frequency (spent max. 1 hour) and very high-frequency groups (max. 11 or more hours) with the main score of a vocabulary test.

The previous study by Estensen (2021) showed that a high exposure rate means a high rate of vocabulary acquisition. According to his result, students who had spent 25 hours or more scored a high main value on the vocabulary test. But, in this study, the overall result of the main score explained that time spent on music and reading had a negative impact on vocabulary acquisition. For instance, the pupils who had spent 11 hours or more received fewer scores on the vocabulary test. In other words, the main score of students who had less time was M=26 but it had decreased M=21.9 for pupils' who had spent 11 hours or more (although the difference was not high). Whereas, the score difference between the two groups who had listened to music for less to more hours was high such as M=23 to M=11.

First, we discuss why music had no or less impact on vocabulary acquisition. However, music was the second least popular EE activity among students according to the survey. In other words, only 5 students out of 27 (18%) had responded that they listened to the music. In addition, many students 20 out of 27 (74%) answered that the amount of exposure to music was much less, especially never or 1 hour. On the other hand, eight students out of twenty-seven responded that they never listened to English music or they had learned nothing from English music. So, all these were reasons why students did not score high on the vocabulary test.

Moreover, the survey was from high schools in Pakistan and Rana. et all showed a "very high liking for Pakistani classical music and ghazal (both of which are prevalent within Pakistani culture)" (Rana. et all. 2011. p, 34). In addition, the language of ghazals and classic music is Urdu, and this can be the reason that Pakistani students acquire less English vocabulary through music.

Furthermore, this study presented the result that those students who spent more time listening to music performed worse in the vocabulary test such as M=11. Thus, this finding had a connection with the affective-filter hypothesis of the Krashen theory. For instance, students who have listened to music too much lost their motivation. In return, the low motivation had become a big hurdle to comprehensible input. In other words, the input could not reach the learning device in the brain and which in turn became the reason for less or no vocabulary learning with the help of music. To sum up, Sundqvist expressed that students cannot learn vocabulary because; "learners can remain fairly passive/receptive (listening to music) (Sundqvist. P. 2009, p. 204).

Secondly, reading overall had a positive impact on vocabulary growth but during comparison of time span, the high exposure to reading had a negative effect on the English vocabulary. Interestingly, many students had spent 11 or more hours per week on reading but there was a minimal decrease in the main value of vocabulary tests. However, the overall score on the vocabulary test was high among students who had read a lot. It means that reading is beneficial for vocabulary acquisition.

Though, there is a positive relation between reading and vocabulary growth but those students who had spent more than 11 hours on reading had a reverse effect. For instance, they performed less well than those who had read 1 hour per week. In other words, too much reading had made the students tired and distract. So, they just read and there was a massive crowd of unknown words in their unconscious mind. However, "human mind could memorize only 7 (+ or-1) words at a time" (Short-Term Memory: Up to 7 Items, but Highly Volatile, n.d.). That's why too much time on reading had negative impact on the vocabulary.

However, in the contrast of Sundqvist's study the time spent on reading was higher because she mentioned in her research; "the time spent on books was very limited" (Sundqvist. P. 2009, p, 117). In addition, according to the Sundqvist's study in the rank of EE importance with vocabulary growth, reading was in the 5th rank while in this thesis reading is number one EE activity. For instance, "there were few students who spent time on reading" (Sundqvist. P. 2009, p,129). But the overall mean score of the vocabulary test of this thesis was high M=24 than Sundqvist's writing.

The findings of this study showed the positive correlation between digital game (3rd activity) players and vocabulary acquisition. In other words, the students who had played online games 11 hours or more outperformed as compared to the students who had spend less time. According to the Sundqvist and Estensen digital games are placed on the first place which are beneficial for the vocabulary growth but in this study, it places on the second number. In addition, digital games can help to improve the vocabulary because now -a- days there are any games where communication is needed to complete the task. Furthermore, during play written input are more beneficial than spoken. In other words, those students who had played game too much used chat and messages that was helpful for their vocabulary growth. Moreover, the result of digital games and vocabulary acquisition had connection with the 'monitor hypothesis' of Krashen theory. According to that theory time and feedback helped to improve the English vocabulary. The players always chat with others and the other player correct her words so repetition of feedback for a long time period helps students to learn or memorize new words. To sum up, for the better result in the vocabulary acquisition 'time which acquirer of second language should give' (Krashen 2013). So, the students who had spent more time on digital online games scored higher mean values M=21.35 than others who had spent less time M=19.6. In short, more exposure to online digital games mean more vocabulary growth.

The Fourth Extramural English activity which improved the student's vocabulary is watching TV and films. Although the number of students who had spent so much time on watching TV were low such as 5 as compared to those who had watched less time (18). Regardless of the less time overall mean score of the vocabulary test was high M=20.8. It means that watching TV and films helped to learn the English even it is the passive activity. In addition, many students (13) gave answer to the question 16 (see appendix) that they learned a lot from the English movies. Although, the purpose of watching TV was entertainment but they learned many new words. This result was supported by the 'acquisition-learning hypothesis' of the Krashen theory. According to that theory you had gained incidental vocabulary from English movies, but your purpose was not learning. In other words, it was known as unconscious learning because student was not thinking of learning.

To summarize, there was four main activities where majority of students had spent maximum time. In addition, the overall result showed that all EE activities had a positive role except listen to music. Because, too much time to listen to music had a negative impact on the vocabulary. The students who had spent much time to listen to music had scored very less mean score of vocabulary test M=11 than who listened to music less hour such as M=23. In the same way reading a lot also put impact on the vocabulary growth and scored less M=21.9 as compared to M=26 but the difference was minimal. Moreover, more exposure to online digital games had a positive effect on the English vocabulary acquisition such as from M=19.6 to M=21.35 (mean score of vocabulary test). In the last, the watching so much TV also helped to improve the English vocabulary M=20.9. In nutshell more exposure to EE activities means more vocabulary learning with few exceptions such as music (who had opposite impact if time increased).

5.3 Type of activity and vocabulary growth

The survey showed the popular Extramural English activities of 9th grader high school students of Pakistan. The answer about the question of EE activities in the spare time showed that reading was a popular activity among students. In other words, 13 out 27 students said that they did reading in their spare time and this was contradicting the findings of Estensen (2021). According to his result "reading…… was the least popular activity" (Estensen. 2021. p, 76). Moreover, there was different types of activities the students usually engaged in their free time, outside the school. The name of these activities was reading, internet use, digital games, YouTube, watching TV series, watching English films and reading newspaper. In addition, the students also believed that text message on Facebook, chat and send posts on the Instagram were also the activities which they did in their free time. However, to watch the English movie was the least popular Extramural English activity among ninth grader Pakistani students.

In accord to the result of survey the researcher had found which activity students used a lot and gave numbering according to their popularity among students. Below table showed that how many students used this particular activity of Extramural English.

Activity	Number of students
Reading	13
Internet use	11
YouTube	9
Online digital games	8
Watched TV series	8
Read newspaper, listen to music	5
Watched the English movies	3
	Τ-1.1.7

Table 7.

The above table showed that the English movies were the least popular EE activity among students and reading was the most popular activity, reading books (13) were more popular than reading newspaper (5). This finding had relation with Sundqvist (2009) because she stated that; "Reading books in English was more common than reading newspapers or comics" (p. 128). Interestingly, in contrast, the students in Norway (Estensen's (2021) did not frequently read the books and was the least popular activity. In other words, the time spent on online reading was high such as students stated that they read online every day. According to Ahmad (2022) "readers who read books for entertainment...... have switched over to the audio-video modes instead of printed material". So, this has connection with the thesis because the students do EE activities for entertainment from outside the school in spare time. That is why many students had read online material every day. In nutshell Pakistani students read other books as well such as "In Pakistan..... book reading remained a passionate hobby of many people as books were comparatively cheap and regular source of information for the readers" (Ahmed. I. 2022). Although, exposure of online reading was high, but the mean value of vocabulary score was low M=16.8. In other words, online reading has not significant impact on the vocabulary growth. During online reading on mobile there was a lot of distraction and students started to check different social cites and all this process put a less impact on vocabulary learning. However, the higher exposure to the reading the books has positive impact on the vocabulary growth of Pakistani students as compared to online reading. In other words, the overall mean

score of book readers were higher M=23.3 and it plays a significant role for the vocabulary acquisition.

Second activity which the students frequently used was internet surfing (11 students). Although, the number of students who had spent time on reading was more than internet users. But its impact on the vocabulary growth was less as compared to the internet. In other words, the students who had used time on surfing the internet scored higher in the vocabulary test such as M=25.9. Interestingly, internet is the 'open' activity which means that you perform every other EE activity on the internet such as playing games, reading digital books or newspaper, watching TV series and films, YouTube, using social media sites and listen to music. On the other hand, on the internet "other" EE activities: chatting, both text and voice; talking on the phone to friends in other countries; talking via Skype to coplayers while playing video games online; writing comments on a video game discussion forum; and writing essays" (Sundqvist. P. 2009, p. 119). That's why the mean value of the vocabulary test, internet users had gotten was higher as compared to all other activities. Although, the number (participants) and exposure (time) of book reading was high among other EE activities but the overall vocabulary growth was lower than internet. In other words, high mean score of the internet users showed that there was positive impact on the vocabulary growth. In nutshell, both reading, and internet had a positive impact on the vocabulary acquisition with the minimal difference between mean value M=25.9 (internet) and M=23.3 (reading).

Following the internet, the other EE activity which scored high in the mean score of vocabulary test was digital game with M=25.5. Though the difference was very minimum almost equal to nothing such as 0.4. The analysis of the data showed that largest group of students who had played online games belonged to low frequency. Because they had spent 0 to 1 hour which had a significant role on vocabulary growth. However, less exposure caused higher scores because the more time on games could enhanced the chances of typing errors (during written conversation) and speaking errors during spoken input. In addition, overall score of the students who had played digital online video games was high. It means there is a positive relationship between online games and vocabulary acquisition.

Moreover, there was some favorite games of the Pakistani students such as PUBG, candy crush, 8 ball pool, online cricket and free fire etc. These all games need some language input and

output for complete the task. For instance, the PUBG was a popular game among Pakistan and the players must do voice chat with unknown players of any country. Sometimes, the unknown player had talked in the English (native speaker). In other words, during PUBG game all players talk with each other through voice chat according to the 'input hypothesis" students acquire vocabulary when they understand the message of other player. In other words, a comprehensible input helped to learn the English vocabulary because they already had some information about words. The second popular game was online cricket where one person "lending his voice to the online gaming world as a commentator on the World Cricket" (Ians, 2020). Thus, players receive spoken input from commentary and students played a lot almost every day because actual cricket game was favorite game in Pakistan. So, they played online also and according to Estensen (2021) who referred Nation and web (2017) if "spoken input in the form of EE activities was given by students regularly, the number of unknown words the learners encounter will increase" (p. 84). In nutshell, online cricket game also helped to acquire vocabulary. The third popular game was candy crush which had very less impact on vocabulary growth because there was very little spoken and written input or output. But overall point scores indicated that there is a positive relationship between online digital games and vocabulary growth.

The YouTube and TV series were in the fourth number in the vocabulary acquisition and the number of participants were almost same such as You Tube (N=9) and watch TV series (N=8). In addition, both Extramural English activities had a positive impact on the vocabulary acquisition. On the other hand, watching films in the English was least popular among Pakistani students (N=3) while they performed almost equally well as those who had watched You Tube and TV series. In other words, the total mean score of the vocabulary test of You Tube, watch movies and series had a very minimal difference such as M=24.8 (TV series), M=24.3 (You Tube) and M=24 (movies). Interestingly, whether the watching movie was not so much popular EE activities, but majority of pupils had learned a lot English from this activity. In Pakistan, there was less trend of dubbing of English movies in Urdu language so, they had watched with English subtitles and written input was more beneficial for the vocabulary acquisition. In nutshell, watching something on the You Tube (English movies and series) had a positive influence on the vocabulary growth.

5.4 Gender difference between Extramural English activities and vocabulary growth

The analysis of question shows that the boys had more positive relationship of Extramural English activities and vocabulary growth than girls. In other words, there was significant difference between the mean score of vocabulary of both genders.

Let's first talk about reading, maximum number of students had read more than 11 hours per week especially boys (N=9). In addition, the girls who had spent same time (more than 11 hours) as boys performed less well on the vocabulary test. For instance, the Mean score of vocabulary test was M=27.7 (boys) and M= 16.1 (girls). One reason behind this is the language of reading such as boys had read the English books more while the girls had preferred to read Urdu fiction novels. That is why boys had encountered many new English words and improved their vocabulary. On the other hands, the overall scores of boys had increased due to high exposure such as the students who had read 1 hour per week scored less in vocabulary test as compared to more than 11 hours reading.

The online digital video games were very popular among boys with low-frequency groups (N=10). The boys who had spent 1 hour per week on digital games had a positive relationship with vocabulary acquisition with M=27.2 (boys). On the other hand, if the students especially boys had spent considerable amount of time on video games scored higher in the vocabulary test such as M=30 (boys). However, girls had improved their vocabulary by enhancing time on games such as from M=12 to M=12.7. But boys performed very well in the vocabulary test as compared to girls.

In the last, boys had performed very well for both watching TV and listen to music than girls. In other words, the highest mean scores of boys were M=28.4 (TV series) and M=27 (music) while the girls highest scores for both activities were M=15.1 (TV series) and M=19 (music). In nutshell, boys performed very well in the vocabulary test than girls and had a more significant relationship between EE activities (to listen music and watch series) and vocabulary acquisition.

To summarize, the overall analysis of the survey and questionnaire showed that boys had performed very well in the vocabulary test as compared to the girls. Moreover, the data was collected from two different schools and girls' school was in the rural area where education system was not good enough especially the English teaching. So, the result had connection with the 'input hypothesis' of Krashen theory. In this hypothesis Krashen stated that students can acquire language better if they had some knowledge already i.e. grammar and vocabulary. In other words, students can acquire advanced knowledge of something if they had basic knowledge of that thing. Furthermore, girls have already less knowledge of vocabulary so they could receive less vocabulary scores. In the end, boys from Urban school had some background knowledge of language already that is why they had acquired vocabulary more well than girls. But overall, the girls who had spent more time on EE activities had performed well than who had little time for these EE activities.

6 Conclusion

This research study was about the Extramural English activities of Pakistani 9th grader school students, its aim was to check whether there was any relationship between EE activities and vocabulary acquisition. Moreover, it put the light on the time spent (on EE) and its relationship with vocabulary growth. In addition, it also showed which was the most frequent EE activity and its impact on vocabulary. In the last, this thesis also indicated whether there was any gender difference between EE and vocabulary.

This thesis had used the mixed method approach i.e. qualitative and quantitative and data had collected through the questionnaire and vocabulary test. The sample size was 30 but during analysis the researcher had excluded 3 students and now only 27 students took part in the research. This thesis designed to answer the four questions related to (1) Extramural English activities helped to improve the English vocabulary, (2) does more time spent on EE activities mean more vocabulary growth, (3) which EE activity was more popular and its impact on vocabulary and the last question (4) was about gender difference regarding to the EE activities and vocabulary acquisition. So, the answers of the questions were as follows.

The answer of the first research question was that most of the students had belief that they were satisfied with their vocabulary growth. In addition, the first question had connection with two previous researches in the Pakistani context. The findings of this questions were quite similar with the Asifa's (2021) research about Pakistani boys' vocabulary acquisition through online digital games. Thus, the result of both researches (Asifa's and me) showed the positive relation correlation between EE activities especially- online games and vocabulary acquisition. In other words, the students who played online games had achieved high scores in the vocabulary test which means their vocabulary was advanced. In short, EE activities had improved the vocabulary acquisition.

According to the findings of second research questions majority of students had spent time 1 hour per week (low-frequency group) and more than 11 hours per week (high frequency) for every Extramural English activity. In other words, the students of both frequency groups had a positive correlation with vocabulary growth. In addition, it is also showed that those students who had spent more time on EE activities (except music and reading) outperformed in the vocabulary test. For instance, the students who had played too much online video games had the mean score of vocabulary test higher M=30 than those who gave less time M=27.2 (Boys). However, the girls mean value had also increased from M=12 to M=12.7. Moreover, the overall scores had showed that exposure of higher amount of digital games had a positive impact on the vocabulary.

Although, the higher amount of exposure on reading had a negative impact on the vocabulary growth of Pakistan. But the total mean score of vocabulary test was M=26 (high frequency group) to M=21.9 (low frequency group) had a minimum difference. In other words, the overall score of vocabulary through vocabulary was high. It means that reading had positive effect on the vocabulary growth. In the second activity which had decreased its scores of vocabulary test due to higher amount of exposure was music. Furthermore, those students who had spent time more than 11 hours per week performed very worst in the vocabulary test such as M=23 (low- frequency group) to M=11 (high-frequency group).

To summarize, overall result of different activities had showed a positive relationship of higher amount of exposure to EE activities and vocabulary growth except reading (minimum difference) and music (significant difference).

The third research question concerned the type of EE activities and it effect on the vocabulary. According to the findings, the most frequent and popular EE activity was 'reading (N=13) while least popular activity was watching movies (N=3). The second most popular EE activity of 9th grader Pakistani students was Internet use. In other words, both activities (reading and internet) had a positive impact on the vocabulary such as mean score of vocabulary test was M= 23.3 and M=25.9. On the other hand, online digital games' players (N=8) with higher amount of exposure outperformed very well in the vocabulary test with mean value M=25.5. In the last, watching movies was the least frequent activity (N=3) but the overall, result of vocabulary test had showed positive correlation with vocabulary such as M=24. In nutshell, all EE activities had improved the vocabulary except reading newspaper. For instance, the mean scores of vocabulary test for all activities were above M=20 except for reading newspaper with M=16.8.

The last research question was about gender difference and the result showed that there was a significant difference between the mean score of vocabulary test. In other words, boys had performed very well in the vocabulary test for all EE activities. In nutshell, boys' school was in the small town-English medium, in the contrast of girls' school (in the rural areas-Urdu medium). So, boys had some basic knowledge of vocabulary already and had learned advanced more vocabulary through EE activities than girls.

To summarize, the findings of the thesis about the vocabulary acquisition of 9th grader Pakistani students through EE activities, had showed the positive impact of EE on the vocabulary growth. In addition, there was some exception such as boys performed well than girls, but we cannot generalize that girls did not improve their vocabulary through EE activities. Because there were certain factors behind this such as boy's knowledge of English vocabulary was already little bit higher than girls. Nevertheless, the sample size was relevant to this study and the overall correlation between EE and vocabulary was positive.

7 Contribution, limitations and further research recommendation

This thesis has contributed to understand the correlation between extramural English activities and second language learning. In other words, the study tried to give the answer of this question "does extramural English helped to improve the vocabulary of L2 of Pakistani High school students? The findings of this research showed that majority of students engaged with EE on the daily basis and had a positive impact on the English vocabulary growth. In addition, some activities had more influence on vocabulary than others.

However, the education system of the Pakistan is not good especially for language learning. Now-a-days in Pakistan everyone has internet access and mobile so, this thesis explains that there are some other ways of learning L2. In other words, teachers of English language should also aware about EE activities and its impact on vocabulary acquisition. This thesis contributed to tell teachers the type of EE activities, time spent on these activities. And the teachers can apply in the classroom to make the class interesting and create the motivational environment. So, the motivational environment of class helps students to learn vocabulary in an easy way. In short, this study tells about the knowledge of EE activities which in turn helps teachers of the Pakistani schools to implement in the classroom for better acquisition of vocabulary.

Moreover, this study had some limitation such as sample size. There were only 27 students who took part in the research and the population of the Pakistan is 238.1 million. So, we cannot generalize the result about impact of EE activities on vocabulary growth of Pakistani students with small sample size. In addition, the data was collected from two different schools such as rural school (girls) and small town (boys). In other words, boys had a little bit knowledge of language already than girls so, they had scored higher in the vocabulary test through EE. However, due to short time and long distance this was not possible to get a large sample size.

In the Pakistan, there is very few researches on the EE activities especially in the rural areas so, further research will be done with the large sample size. As, students of Pakistan could not get so much learning of the L2 in the classroom. They also require some extra sources to improve the vocabulary. So, there is need of further research on the use of EE activities for the broader learning outside the class

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Appendix 1 (consent and information letter)

Are you interested in taking part in the research project "The correlation between

Extramural English (EE) activities and vocabulary growth in High school students in

Pakistan"?

This is an inquiry about participation in a research project where the main purpose is to evaluate how well the Extramural English (EE) activities such as video games, movies, music, books and social networking sites improve English, and my target group is the students of class 9th in local Pakistani school. In this letter we will give you information about the purpose of the project and what your child participation will involve.

Purpose of the project

The reason behind this research question is, sometimes students prefer to see web series and movies with only English subtitles for entertainment purposes which can affect the vocabulary. Students mostly use the slang words on different social networking sites which can affect the learning of formal vocabulary both in positive and negative way. So, my interest is to find answer to the question; do these EE activities improve language skills or not?

The following research questions will be addressed in this research project.

1. Do EE activities lead to vocabulary growth in second language (L2) English in High school students in Pakistan?

2. Does the amount of exposure to L2 English in EE activities play a role, i.e., does an increased number of hours in EE lead to an increase in vocabulary growth?

3. Does the type of activity play a role, i.e., do some activities have a higher impact on vocabulary growth in L2 English than others?

4. Is there a correlation (positive or negative) between EE activities, vocabulary growth and gender?

This project is my master's thesis.

Who is responsible for the research project?

University of Stavanger is the responsible for the project.

Why are you being asked to participate?

This project is the study about the impact of EE activities (watching TV, films, web series and listening to music, paying video games and reading books) on vocabulary growth of 9th grade students.

What does participation involve for you?

This project collect date in the form of survey for example questionnaire and vocabulary test.

"If you take part in the project, you will be asked questions on the paper which takes maximum 30 minutes and vocabulary test which also takes 30 minutes which means maximum one hour. Your answer will be on paper. Here is one example of question: how many hours you spend on social media?

Your parents/guardians may on request see the survey. in advance.

Participation is voluntary

Participation in the project is voluntary. If you chose to participate, you can withdraw your consent at any time without giving a reason. All information about you will then be made anonymous. There will be no negative consequences for you if you chose not to participate or later decide to withdraw.

Your personal privacy - how we will store and use your personal data

We will only use your personal data for the purpose(s) specified in this information letter. We will process your personal data confidentially and in accordance with data protection legislation (the General Data Protection Regulation and Personal Data Act).

Only my institution UIS and supervisor Nadine Kolb have access to the personal data. Your personal data will be deleted during upload time on the index of my research project.

Participants will not be recognizable in my publication.

What will happen to your personal data at the end of the research project?

The project is scheduled to end at 11 May 2023 and after this I will delete the personal data and collected data.

Your rights

So long as your child can be identified in the collected data, you have the right to:

- access the personal data that is being processed about you
- request that your personal data is deleted
- request that incorrect personal data about you is corrected/rectified
- receive a copy of your personal data (data portability), and
- send a complaint to the Data Protection Officer or The Norwegian Data Protection Authority regarding the processing of your personal data

What gives us the right to process your personal data?

We will process your personal data based on your consent.

Based on an agreement with University of Stavanger, *Data* Protection Services has assessed that the processing of personal data in this project is in accordance with data protection legislation.

Where can I find out more?

If you have questions about the project, or want to exercise your rights, contact:

- Universitet i Stavanger via (supervisor) Nadine Kolb. E-mail adresse: nadine.kolb@uis.no.
- Our Data Protection Officer: Rolf Jegervatn
- Data Protection Services, by email: personvernombud@uis.no

Yours sincerely,

Project Leader (Researcher/supervisor)

Nadine Kolb

Student (if applicable)

Uzma Shaheen

Consent form

Consent can be given in writing (paper).

I have received and understood information about the project

The correlation between Extramural English (EE) activities and vocabulary growth in high school students in Pakistan. and have been given the opportunity to ask questions. I give consent for my child:

- □ to participate in (*survey in the form of questionnaire*)
- □ For vocabulary test to check English growth
- □ for my child's personal data to be stored until the end of the project in 2023, i.e., no personal data will be kept after 2023.

I give consent for my personal data to be processed until the end date of the project, approx. May 2023.

(Signed by participant, date)

Appendix 2 (Questionnaire)

Name:

Gender:

My name is Uzma Shaheen. Here is survey for my thesis project. Some questions are open ended, and some are close ended. You have right to give answers or not. Your answers and personal data will remain anonymous and will be deleted after submission of my thesis. Thank you!

- 1. How well do you like English?
 - I like English very much
 - I like English a lot
 - I like English a little
 - I don't like English
- 2. Do you think English is an important subject? Answer in full sentences why you think English is important, or why you don't think it is important.
- 3. How good do you think your oral English skills are? 1 is very bad and 10 is very good.
 1 2 3 4 5 6 7 8 9 10 (circle that digit what you think).
- 4. How satisfied are you with your vocabulary in English? (1 is very unsatisfied, 10 is very satisfied)

1 2 3 4 5 6 7 8 9 10 (circle that digit what is your answer).

5. How easy or difficult do you think it is to talk to others in English? (1 is very difficult, 10 is very easy).

1 2 3 4 5 6 7 8 9 10.

- 6. Which of these elements are most important to you in learning English? (check all the boxes if you think they are all important).
 - o Grammar
 - \circ reading
 - \circ oral discussions
 - \circ writing
 - o drama
 - o film
 - English activities you do outside of school.
- 7. Here are several statements about English, tick all the boxes that you agree with.
 - o English is important
 - I will need English in the future
 - I am comfortable speaking English

- I'm nervous when I speak English
- English is uninteresting
- English is difficult
- English is fun
- 8. I learn English best at home (do you agree or not).
 - o very agree
 - o agreed
 - \circ somewhat agree
 - \circ do not know
 - o slightly disagree
 - o disagree
 - Strongly disagree
- 9. How do you think you learn English best? (answer in full sentences and feel free to give more examples).
- 10. Have you been to any countries where you had to speak English?
 - o yes
 - o no
- 11. Who do you speak English within your spare time? (tick all that apply).
 - o friends
 - o family
 - o people you play with online
 - people you chat with
 - o other ways not mentioned
 - o no
- 12. How often do you speak English in your spare time?
 - Every day outside of school
 - A few times a week
 - A few times a month
 - Sometimes during the year
- 13. What English activities do you do in your spare time? (tick all the boxes that apply to you).
 - \circ read books
 - read newspapers or magazines
 - o watch English TV series
 - watch English movies
 - use the internet
 - listen to music
 - play digital games
 - YouTube

- o other activities not mentioned
- 14. If there are any English activities you do in your spare time, which were not mentioned in the previous question, you can write them down here.
- 15. How often do you watch English TV series or films?
 - o Never
 - \circ 1 hour a week
 - between 3 and 5 hours a week
 - between 5 and 7 hours a week
 - between 7 and 9 hours a week
 - o between 9 and 11 hour a week
 - o more
- 16. Do you feel that you are learning English by watching English films, TV series or videos online (YouTube)?
 - I learn a lot from this
 - I learn quite a lot from this
 - I learn little from this
 - o I'm not learning anything from this
 - o i never watch English movies
- 17. How often do you read in English? (Doesn't have to be a book, it can be internet newspapers etc.).
 - o Weekday
 - o Almost every day
 - o rarely
 - Almost never
- 18. Do you feel that you are learning English by listening to English music?
 - I learn a lot from it
 - I learn a bit from it
 - I learn very little from it
 - I learn nothing from it
 - I don't listen to English music
- 19. How often do you think you listen to English music?
 - o Never
 - o 1 hour a week
 - o between 2 and 3 hours a week
 - \circ between 3 and 5 hours a week
 - o between 5 and 7 hours a week
 - o between 9 and 11 hour a week
 - o more
- 20. How often do you play digital games in English?
 - Sometimes during the year
 - \circ 1 hour a week
 - Between 2 and 3 hours a week

- Between 3 and 5 hours a week
- Between 5 and 7 hours a week
- Between 7 and 9 hours a week
- o Between 9 and 11 hours a week
- \circ More
- o Never

21. Do you feel like you're learning English when you play digital games?

- I learn a lot from this
- I'm learning a bit from this
- I learn very little from this
- I'm not learning anything from this
 - I don't play digital games
- 22. Write down your three favorite games. For example, PUBG and Fortnite.

Thank you for your answers!

Good luck!

Appendix 3 (vocabulary test)

Name:

Gender:

Productive Level Test

Complete the underlined words as has been done in the example.

For example: He was riding a bicycle

- 1. I am glad we had this <u>opp</u>..... To talk.
- 2. There are a <u>doz</u>..... eggs in the basket.
- 3. The pirates buried the <u>tre.....</u> on a desert island.
- 4. Her beauty and <u>cha.....</u> had a powerful effect on men.
- 5. <u>La....</u> of rain led to a shortage of water in the city.
- 6. He takes <u>cr....</u> and sugar in his coffee.
- 7. The rich man died and left all his <u>we.....</u> to his son.
- 8. <u>Pup.....</u> must hand in their homework b the end of the week.
- 9. This sweater is too tight. It needs to be stret......
- 10. Ann intro..... Her boyfriend to her mother.
- 11. Teenagers often <u>adm.....</u> and worship pop singers.
- 12. If you blow up that balloon any more it will <u>bur.....</u>
- 13. In order to be accepted into the university, he had to <u>impr.....</u> his grades.
- 14. The Package was <u>deli</u> two hours after it had been sent.
- 15. We try to go <u>abr</u>..... At least once a year.
- 16. The dress you are wearing is <u>lov</u>.....
- 17. He was not very <u>popu</u>..... when he was a teenager, but he has man friends now.
- 18. I found the book deeply <u>distu</u>.....

Vocabulary level test:

This is a vocabulary level test; you must choose the right word to go with each meaning. Write the number of that word next to its meaning.

Ex)

	7.	Business	
	8.	Clock	part of a house
	9.	Horse	something used for writing
	10	. Pencil	animal with four legs
	11	. Shoe	
	12	. wall	
	An	iswer:	
	1.	Business	
	2.	Clock	6 part of a house
	3.	Horse	4 something used for writing
	4.	Pencil	3 animal with four legs
	5.	Shoe	
	6.	wall	
1.			
	1.	Сору	
	2.	event	end or highest point
	3.	motor	this moves a car
	4.	pity	things made to be like another
	5.	profit	
	6.	tip	
2.			
	1.	admire	
	2.	complain	make wider or longer
	2. 3.	fix	bring in for the first time.
	<i>3</i> . 4.	hire	have a high opinion of someone
	ч. 5.	introduce	have a light opinion of someone
	<i>5</i> .		
	0.	Sucton	

3.

1. accident

- 2. debt Loud deep sound
- 3. fortune something you must pay
- 4. pride having a high opinion of your self
- 5. roar
- 6. thread

4.

- 1. arrange
- 2. develop grow
- 3. lean put in order
- 4. owe like more than something else
- 5. prefer
- 6. seize

5.

- 1. birth
- 2. dustgame
- 3. operation winning
- 4. row being born
- 5. sport
- 6. victory

Good luck!