AMERICAN UNIVERSITY OF ARMENIA

College of Humanities and Social Sciences

A Case Study of Challenges Faced by EFL Learners Reading Interactive Fiction

A Thesis submitted in

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Master of Arts in Teaching English as a Foreign Language

By

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ABSTRACT

Interactive fiction is a game format or computer based form of literature, which has existed for more than 30 years (Pereira, n.d.). In interactive fiction the reader directly interacts with the storyline by choosing actions and events that may lead to an alternative ending. The reader interacts with the story by typing directions in the program interface. The purpose of this study was to explore interactive fiction and the EFL learners (their behavior, attitudes, etc.) while reading it in order to understand what challenges they can have in the process of reading. To answer this research question a case study was designed with seven EFL learners of different proficiency level, age, and gender. Two interactive stories were chosen according to the genre, difficulty, interactivity, listening feature, and background color. For data collection three instruments – video-recordings, think aloud protocols, and in-depth interviews were used. Findings indicate that EFL learners have two main categories of challenges: those related to story structure and those related to software. Based on the results, specific recommendations are offered to improve the interactive fiction software for EFL and ESL readers.

CHAPTER ONE: INTRODUCTION

The world is changing at a very fast pace. In our technological age it is important to be critically literate, culturally literate, media literate, and computer literate. Many studies show that computer and digital games make the learning process not only more interesting but also more effective. This study investigates interactive fiction, which is an interactive form of literature and a game at the same time.

```
Kitchen                              Score: 15         Moves: 33
North of House
You are facing the north side of a white house. There is no door here, and all
the windows are boarded up. To the north a narrow path winds through the trees.

>e
Behind House
You are behind the white house. A path leads into the forest to the east. In
one corner of the house there is a small window which is slightly ajar.

>open window
With great effort, you open the window far enough to allow entry.

>enter house
Kitchen
You are in the kitchen of the white house. A table seems to have been used
recently for the preparation of food. A passage leads to the west and a dark
staircase can be seen leading upward. A dark chimney leads down and to the
east is a small window which is open.
On the table is an elongated brown sack, smelling of hot peppers.
A bottle is sitting on the table.
The glass bottle contains:
  A quantity of water

>
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Figure 1. A screenshot from interactive fiction. This figure illustrates the structure of interactive fiction.

Interactive fiction is a game format or computer-based form of literature, which has existed for more than 30 years (Pereira, n.d.). In interactive fiction the reader directly interacts with the storyline by choosing actions and events that may lead to an alternative ending. The reader or sometimes a group of readers type simple sentences and decide, for example, where the

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characters should go, what objects they should take, or what should be done to solve different problems. In most of the versions of interactive fiction readers should write common action verbs such as "open", "touch it", or "go east", "go west" (instead of writing go right or left) in order to be able to continue. Then, the story continues according to the readers' instructions. In this way readers influence the events of the story. Cadre (1990, as sited in Pereira, 2011), provides a useful description of what interactive fiction is. He says that "the writer (the author of the game) and the reader (the player of the game) are telling a story together". Most individuals I know who like to read interactive fiction say that it is very interesting and enjoyable to read this form of stories where you are the hero of the story and can influence its events.

1.1. Statement of the Problem

Several studies (Neville, Shelton and McInnis, 2009) show that interactive fiction can be successfully used for the second or foreign language teaching purposes, especially, for the developing vocabulary and reading skills. It is a new way of reading, through which the learners not only develop their reading skill but learn many new words in context. With the help of different pre- and post-reading activities it is also possible to develop the students' listening and speaking skills as well. Frotz interpreter, which the students have to install in their computers in order to be able to read interactive fiction, also allows listening to the text as well as reading it. Research shows that using interactive fiction with traditional but effective methods of teaching foreign language may make the learning process more interesting and effective.

Researchers (Neville, Shelton and McInnis, 2009) have also found out that with the advantages interactive fiction has also some disadvantages. The learners may have some difficulties during the reading of interactive stories. Those challenges need to be studied in order to use interactive fiction in EFL classrooms appropriately.

1.2. Purpose of the Study

The purpose of this study was to explore interactive fiction and the EFL learners (their behavior, attitudes, etc.) while reading it in order to understand what challenges they can have in the process of reading.

The research question of this study is:

What challenges do EFL learners face while reading interactive fiction using Gargoil and Frotz interpreters?

To answer this research question I have designed a case study with seven EFL learners of different proficiency level, age, and gender.

1.3. Significance of this Study

There are not many studies done on difficulties EFL/ESL learners may have while reading interactive fiction. Therefore, this case study may be important as it will investigate those challenges. In this study recommendations of specific changes to story writers and software developers will be given in order to make it possible to use interactive fiction successfully with EFL/ESL learners.

The rest of the paper includes the following chapters and sections:

- Literature review
- Methodology
- Results
- Discussion and conclusion
- References
- Appendices

CHAPTER TWO: LITERATURE REVIEW

In this chapter three main topics are discussed:

1. Interactive fiction

2. Measures of readability

3. Software testing

2.1. Interactive Fiction

Several studies have been done regarding the use of interactive fiction in the language learning classrooms. Neville, Shelton and McInnis (2009) conducted a study using interactive fiction to teach German vocabulary, reading, and culture to university students. According to Neville, Shelton and McInnis (2009), the aim of this mixed-method study was to see if interactive fiction could help to immerse students into German culture and if that fact could help to increase their vocabulary. Two groups were formed: a control group and an experimental group. The students of the control group read 550-600 words in German, did homework exercises based on the vocabulary of their readings, and wrote an essay. The students in the experimental group read interactive fiction and did the same homework and activities as the students of the control group. The next day the students of both groups completed a vocabulary assessment in the classroom. To collect qualitative data the researchers asked the students of both groups to comment on their learning process during an interview, which was recorded. Results showed that the students of the experimental group exerted less mental effort and performed better both on homework and assessment than the students of the control group. Interactive fiction also helped the students to activate their schema and write the essays more easily than the students of the text-based group.

Different studies show that digital game-based learning can be both fun and challenging. Interactive fiction is not an exception. This interesting type of game not only provides opportunities to study texts in a new way but also helps to integrate students in cultural situations and develop their word stock (Neville, Shelton and McInnis, 2009). It also includes problem-solving tasks, which make students think and develop their critical thinking skill (Desilets, 1989). Puzzle games also teach close reading of texts and thoroughness (Reed, n.d). As Desilets (1989) says, the thinking processes involved in interactive fiction could be understood as an application of Robert J. Sternberg's (1984, as cited in Desilets, 1989) componential theory of intelligence, which tries to understand intelligence partly in terms of three kinds of component processes:

- "Metacomponents", which control intelligent behavior by planning, monitoring, and evaluating it.
- "Performance components," which are inferring similarities and differences, carry out the plans for thinking that the metacomponents decide on.
- "Knowledge acquisition components", which enable the thinker to gain new information, including information that the other kinds of components may use.

Interactive fiction could be used for the extensive reading as well. The research shows that extensive reading helps students to develop their reading skills greatly (Lancy & Hayes, 1988). One of the advantages of extensive reading is incidental vocabulary learning, which is learning the meanings of the new words through reading without any instruction (Konopak et al, 1987 as cited in Camiciottoli, 2001). Extensive reading is very motivating and helps learners not only to develop their reading skills but also their background knowledge (Hayashi, 1999 as cited in Sun, 2003). According to Lancy & Hayes (1988), most of the students spend very little time

on extensive reading, two to five minutes only. Hence, one of the benefits of interactive fiction is that it makes learners read much more in or out of the classroom, even, up to three hours and more.

According to Desilets (1989), interactive fiction could be used not only for individual tasks but also for group work. Many readers have difficulties to read interactive fiction without help from someone else. A problem that seems impossible to one reader may be easy for another one. During the collaborative reading one member of the group could type the sentences and read the results aloud while others could be actively involved in discussions of the choices, trying to solve the dilemmas and making suggestions.

According to Bolter and Joyce (1987), compared to reading a traditional story, video game playing entails more emotional involvement. With most programs, it is possible to restart the system and try the same story again. The reader of an interactive fiction can return to the starting episode and take another path. This flexibility of interactive fiction is a big contrast to the inflexibility of the printed book, which cannot change in response to its readers' previous experience.

At the same time, Neville, Shelton and McInnis (2009) found out that EFL/ESL students reading interactive fiction may have also some challenges. Qualitative analysis showed that scaffolding was not sufficient and the students reflected that the story was too difficult for their level of proficiency (Neville, Shelton and McInnis, 2009). During the reading of an interactive story the readers have to write solutions for different situations. Lancy & Hayes (1988) say that another difficulty is making the right choice of words during the interaction, because if the students do not use the required words for the solutions the computer program will not accept them. Computer will not recognize also misspelled words. Therefore, learners should have good

spelling. Time is also a challenge as it takes, approximately, 1.5 -2 hours to start and finish the story (Lancy & Hayes, 1988).

At the same time, the duration of the story depends on the reader as well. If the reader is proficient in reading, makes decisions and solves the problems quickly he/she will finish the same story earlier than the one who reads and solves problems slower. Problem with time could be also solved if the students could save their game and continue later from the point they stopped. The learners would be able not only finish their reading but also not to get bored during the reading of interactive fiction.

To conclude, interactive fiction has some disadvantages but, overall, it is engaging and brings much enjoyment to children. It provides opportunities for students to read for pleasure and play a game simultaneously. It makes learners activate their schema and develops their critical thinking skills. Interactive fiction also helps to enrich learners' word stock and develop their reading skills. The students progress from being a passive learner to an active learner via submersion into a personalized learning content. The review of the literature shows that interactive fiction is a useful tool, which could be used for the EFL/ESL teaching purposes in spite of the fact that EFL/ESL learners may have some difficulties while reading interactive stories. There is not enough research on the areas of improvement of interactive fiction. Therefore, this study focuses, especially, on the challenges EFL students may face while reading it.

2.2. Measures of Readability

As it was mentioned above the students taking part in the study done by Neville, Shelton and McInnis (2009) said that the stories were too difficult for their level of proficiency. Therefore, in this study vocabulary frequency and measures of readability were used to choose

the stories for the research, which would be appropriate for the proficiency level of the participants of the current study.

Many studies that have been done in this field show that vocabulary size is very important component for reading comprehension. According to Yildirim, Yildiz, and Ates (2011), depending on the vocabulary knowledge one may be a successful reader or not very successful. Proficient readers are able to draw inferences, derive word meanings, and use different strategies, which poor readers do not. The findings of the research done by Yildirim, Yildiz, and Ates (2011) indicate that the vocabulary knowledge is a predictor of successful comprehension of narrative and mostly expository texts. Jenkins, Stein and Wysocki (1984) mention that the effect of vocabulary knowledge on reading comprehension also depends on the type of the reading text.

Nation (2001) suggests three factors that are important in vocabulary knowledge: 1) form: how the word is formed, for example, spelling, pronunciation, syllable stress, or part of speech), 2) meaning: what meaning the particular word or expression has in the context, and 3) use: when or why different words or expressions are used. According to Qian (2002), some linguists think that vocabulary knowledge has also breadth and depth. Breadth of the vocabulary knowledge is the vocabulary size or the number of words one knows. With larger vocabulary size the learner will have more opportunities to guess the meaning of unknown words. Depth of the vocabulary knowledge shows how well the person knows the word (spelling, meaning, pronunciation, etc.). Quality of word knowledge includes also knowledge of synonymy, polysemy and collocation (Zhang & Annual, 2008). Both breadth and depth knowledge of vocabulary are important for reading comprehension.

Qian (2002) suggests that receptive vocabulary size is larger than productive vocabulary size. The findings also indicate that the learners who have larger receptive vocabulary know more of those words productively than the ones who have smaller receptive vocabulary. Johnson, Kress, and Pikulski (1987, as cited in Rasinski, 1999) claim that understanding of 99% of words is required for independent level of reading, 95 - 98% - for instructional level and 90% or less is the criterion for frustration level. Laufer (1992) mentions that the minimum number of the most frequent word families should be 3000. That will allow a reader to understand unsimplified texts. Hirsh and Nation (1992) think that the knowledge of 5,000 word families will make reading enjoyable. According to Nation (2006), in order to read and understand novels and newspapers one should have a vocabulary of 8,000 to 9,000 words. Compared with the written text, spoken text requires knowledge of 6,000 to 7,000 word families. It is also true that deep knowledge of the vocabulary may not be necessary if the person has some background knowledge (Mezynski, 1983). It is interesting to know that well-educated native speakers know, approximately, 20,000 word families, and that till the age of 20 people learn 1000 word families a year (Hirsh and Nation, 1992). A strong relationship between vocabulary knowledge and reading comprehension shows that one way to improve learners reading comprehension is increasing their vocabulary. Another way is adapting written texts by changing the difficult words and sentences with easier ones. Adapted texts are easier to read and understand.

In the 1920s readability formulas were developed. With the help of those formulas became possible to predict the difficulty level of a text (DuBay, 2004). Many adults and children have difficulties with understanding what they read, not because of their reading skills, but because of the complexity of the language of the text (Bormuth, 1966). According to DuBay (2004), the research on these formulas was not available until the 1950s. Writers Rudolf Flesch,

George Klare, Edgar Dale, and Jeanne Chall made the formulas and the research done on them available, after which the formulas were widely used in different fields such as journalism, health care, law, or industry. By the 1980s, there were already 200 formulas and over a 1000 studies on the validity of those readability formulas.

Most of the readability formulas are based on two measures, which have been checked by many research studies:

1. *Syntactic difficulty* (grammatical complexity), which is usually measured by sentence length.

2. *Semantic difficulty* (word meaning), which is sometimes measured by word length measured in syllables or number of letters (Fry, 2002).

According to Dale and Chall (1948), in 1943 Rudolf Flesch produced his own readability formula, which he claimed was better (especially for the materials of adult readers) than the other ones, which were not very useful for the materials of above the eighth grade level difficulty. In his formula Flesch included three more factors: average sentence length, relative number of affixed morphemes (prefixes, suffixes, inflectional endings), and relative number of personal references. In order to make readability formulas more reliable and use them for the texts of different levels of difficulty, several researchers have thought about additional variables such as parts of speech, syllable count, word counts, prepositional phrases (Bormuth,1966).

Bruke and Greenberg (2010) claim that most of the formulas give best results when at least three 100-word text samples are used taken from different parts of the text. Most formulas predict 50% to 75% comprehension, not 100% (Bruke and Greenberg, 2010). After the level of difficulty has been prescribed, the next step is matching the text difficulty with an individual's reading level.

According to Fry (2002), leveling, which is another procedure of predicting text difficulties, differs from readability formulas in that that some other factors are taken into consideration like content, illustrations, or format. Another difference between leveling and readability is that most readability formulas are used both inside and outside the classroom, but leveling is used only in the kindergarten and elementary classroom.

Another alternative option for EFL/ESL learners are graded readers, which are adapted books for EFL/ESL students. According to Nation and Ming-tzu (1999), after reading five to seven adapted books at a level, approximately, 80% of words will be met minimum once, and about 20 - 50% of words will occur 10 times or more during the reading of those books. The learners have to read at least one graded reader per week in order to meet the same words often enough to remember and learn them and enrich their word stock. Nation and Ming-tzu (1999) report that from one level to another one the number of new words should become bigger.

Dale and Chall (1948) write that in spite of the fact that longer sentences can make comprehension more difficult many of them are easy to read and understand. On the other hand, there are many short sentences, which may be harder to understand than longer ones. The same problem exists with the use of familiar words. Large number of unfamiliar words makes the text difficult to understand, but sometimes familiar words can be used in a symbolic or metaphoric sense ("To be or not to be").

When the words of the text are difficult to understand, readers often use their prior knowledge of a topic to understand the main idea (Stahl & Jacobson, 1986). According to Rush (1985), measures of readability are useful when only some general information (profession, position, etc.) is known about the readers. When more information is known about the readers such as their interests, knowledge, motivation, and skills, measures of readability lose their

value. According to Marshall (1979), another problem with measures of readability occurs when the sentences and words are oversimplified and cohesion is lost. As a result, such texts become more difficult to understand as the reader has to guess the information. Therefore, sometimes simplified texts are more difficult to comprehend than those, which have higher readability levels. Most of the readability formulas measure sentence length and word familiarity or word length but do not take into consideration the differences in meaning or the reader's background knowledge (Dale and Chall, 1948). For that reason, very often, even, the lowering the readability levels of books does not make the texts easier to understand (Marshall, 1979).

The studies mentioned above show that in spite of the challenges, vocabulary size and measures of readability are, overall, good predictors of the difficulty of different types of texts. Given the research above, this study adopted some of the measures of readability to categorize interactive fiction stories by level of difficulty. It was easier to identify the difficulty level of the stories and choose the ones which were appropriate for the proficiency level of the participants of this case study. This discussion implies that vocabulary frequency and measures of readability could be also very useful for adapting interactive stories in order to make them appropriate for different proficiency levels. It will make possible to use interactive fiction in the language teaching.

2.3. Software Testing

Software testing is the third part of this literature review. As readers deal with software while reading interactive fiction, many potential challenges may be connected with software usability, such as the keyboard buttons, font size, background color, or listening feature. Examples of difficulties with the software, which were already found in the previous research (Neville, Shelton and McInnis, 2009), are word choice and spelling. When the readers use

incorrect or misspelled words the computer program does not accept their answers. For those reasons, software testing was also considered in this study, in order to see what challenges the participants may have with the software while reading interactive stories and how those obstacles could be eliminated.

Process of creating a program includes the following stages (Pan, 1999).

1. Defining a problem

2. Designing a program

3. Building a program

4. Analyzing performances of a program

5. Final arranging of a product

Software testing provides information about the quality of the product and/or the service. According to Pan (1999), testing is an important part of the software development. The aim of the software testing is to:

- evaluate the program to see if it meets required results

- improve quality

- check its verification and validation

- check its reliability

Pan (1999) mentions that the quality has three main factors: functionality, engineering, and adaptability. Good testing measures all three factors.

The aim of including software testing in this case study is to evaluate interactive fiction, and identify and suggest ways to improve the quality of it in order to adapt interactive stories to EFL/ESL students who have limited linguistic proficiency.

According to Pan (1999), most of the errors found out by testing techniques are design errors. There are different methods of software testing, which focus on different points of quality or have different purposes. Classified by purpose software testing can be divided into several stages.

- Correctness testing
- Performance testing
- Reliability testing
- Security testing

Pan (1999) claims that the minimum and the most important requirement of software testing is correctness. In my opinion, this requirement would be good to test also for interactive fiction. To test the correctness black-box testing technique could be used. In black-box testing the tester is only aware of what the software is supposed to do, not how it does it. Black-box testing method evaluates more the functions and their input and output data. Black box testing exercises all functional errors of a program such as;

- incorrect or missing functions
- interface errors
- errors in data structures or external database access
- performance errors
- initialization and termination errors.

According to Pan (1999), performance testing is also important requirement of software testing. "Performance bugs" refer to those design problems in software that cause the system performance to degrade. Performance testing of interactive fiction would be also useful as there is an option to save the story but it does not work appropriately.

Pan (1999) claims that by scope, software testing can be classified into:

- unit testing

- component testing

- integration testing

- system testing

According to Pan (1999), software testing does not have particular end point. Testing could be done all the time and it is impossible to remove all defects. On the other hand, software testing should be stopped at one point. For this reason, it would be better to stop testing when the resources – time, budget, or test cases are exhausted. It would be also meaningful to stop testing when reliability meets the requirement.

However, despite the numerous research results testing is still difficult to implement, time -consuming, cost-ineffective, and not always very satisfying (Luo, n.d.). Nevertheless, it is one of the most important parts in software development, which improves the quality of the program. Testing must be planned, and should be done by people who are independent of the developers (Weyuker, 2002). There are different criteria, according to which software testing is realized.

In this study the software testing was implemented according to most of the criteria mentioned above. As a result, different suggestions were made to improve the quality and design of interactive fiction.

The literature review explores concepts and techniques that are relevant to this study.

The findings of discussed studies (Neville, Shelton and McInnis, 2009) done on interactive fiction show that such stories could be useful for language teaching. Interactive stories could be used for extensive reading, which would not only develop EFL/ESL learners reading skills but, also, enrich their word stock and motivate them. The research (Neville,

Shelton and McInnis, 2009) also shows that EFL/ESL learners may have also challenges while reading interactive stories. Those challenges need to be studied in order to make some suggestions on how to improve interactive fiction to use it successfully with foreign language learners.

Measures of readability helped to identify the difficulty of different interactive stories and chose the one which will be appropriate for the participants of this study. Readability formulas will be also very useful in the future to adapt the interactive stories to different proficiency levels of EFL/ESL students.

Software testing was also very important in this study as it helped to understand the challenges that EFL/ESL learners may have while reading interactive fiction. Software testing helped to come up with ideas of what should be changed or improved in interactive fiction in order to adapt it to EFL/ESL students.

CHAPTER THREE: METHODOLOGY

According to Duff (2008), case study is a kind of qualitative research where detailed information is collected about each research object using qualitative methods of data collection, such as interviews or observations. A case or a research object in a case study may be a person, a group of people, an event, or a phenomenon. Case studies may last from several months to several years.

As there was not enough research on the challenges that EFL/ESL learners may have while reading interactive fiction, a case study was designed over a period of five weeks to gather detailed information for seven cases. In order to find out the various challenges and in order to improve interactive fiction in general and software, EFL learners of different ages, genders, proficiency levels and backgrounds were chosen for this in-depth study.

3.1. Participants

For choosing the participants of this study purposive sampling technique was used. The participants of this study were chosen according to the following criteria.

- Level of proficiency

- Age

- Gender

The proficiency level of adult participants was determined by their TOEFL score. Four young adult participants were found in the intermediate and advanced groups of Experimental English Courses (EEC). The students of EEC were introduced to the interactive fiction and this research project, after which they were asked to volunteer to take part in this case study. The proficiency level of those EEC students was determined by the score of their proficiency test.

Table 1

Personal Information about the Participants

Name	Age	Proficiency level	Personal information
Alice	29	advanced	AUA student
Ani	24	intermediate	architect
Alex	29	intermediate	architect
Mary	15	advanced	EEC student
Lily	15	advanced	EEC student
David	16	intermediate	EEC student
Artak	14	intermediate	EEC student

Table !

3.2. Interactive Stories

For choosing the stories of this study, again, purposive sampling technique was used. Two interactive stories were chosen according to the following criteria.

- Genre
- Difficulty
- Interactivity
- Listening feature
- Background color

The first interactive story was *Snack Time.* The hero of the story was a dog that had to awake his master to feed him. This story was not very difficult. The language of it was also not very difficult. This story was not very interactive. In order to open this story *Gargoil* interpreter was used. Therefore, the background color of the story was white. Also, it did not have any listening feature as this interpreter does not have that option. Thus, the participants could only read the story without listening to it.

The second interactive story was *Loose*. This story was about different characters taken from different fairy tales. In comparison with the first one this story was more difficult. Its language and content was more challenging than the language used in the first story. Moreover, this story was more interactive. Additionally, it had a dark blue background color and listening features, as it was opened with the Frotz interpreter. This way, the participants could read as well as listen to the story at the same time.

For identifying the difficulty of interactive stories and choosing the ones that would be appropriate for the participants' proficiency level two kinds of readability analyzers and a vocabulary profiler were used. The first readability analyzer was labs.translated.net (http://labs.translated.net/text-readability/#), where it was possible to type or paste the text, which should be analyzed and see the results of analysis. The advantage of this analyzer was that it gave the ease of reading level (hard, average, or easy), and potentially hard or characteristic terms (if there are any).

The second readability analyzer was www.online-utility.org (http://www.online-utility.org/english/readability_test_and_improve.jsp). This free online software tool calculated readability and gave Coleman Liau index, Flesch Kincaid Grade Level, ARI (Automated Readability Index), SMOG. The measure of readability used here was the indication of number

of years of education that a person needs to be able to understand the text easily on the first reading. This analyzer also showed number of words in the text, number of sentences, average number of characters per word, average number of syllables per word, and average number of words per sentence. It also displayed complicated sentences (with many words and syllables) with suggestions for what should be done to improve its readability.

In the vocabulary profiler (http://www4.caes.hku.hk/vocabulary/profile.htm) the text was entered in order to analyze it. This program showed how many word types the text contained from the following frequency levels: the list of the most frequent 1000 words, the list of the most frequent 1001 - 2000 words, the Academic Word List (AWL), the remaining words in Xue and Nation's (1984) University Word List not included in the AWL, and the words that do not appear in any of the preceding lists.

From different parts of both stories several paragraphs were copied for the analysis. Each paragraph had, approximately, 40-60 words.

3.3. Instruments

For data collection three instruments – video-recordings, think aloud protocols, and in-depth interviews were used.

Each time the participants were reading a story on the AUA campus a camera was adjusted in the room using over-the-shoulder shot type of video and the participants and the whole process of the reading was recorded. In this way the affective filter was lower and the participants felt much free than if the researcher was observing herself. On the other hand, video recordings allowed the researcher to observe the process of reading, the participants' reactions and the kinds of challenges they faced. This instrument also helped to see the changes in the participants' behavior over particular period of time.

For think aloud protocols the participants were asked to think aloud while reading the stories on the AUA campus. Before the participants started reading interactive stories on the AUA campus they were trained a little. The researcher explained what think aloud protocol is and what they had to do. Then, the participants were given a short paragraph to read and speak aloud about what they were reading. During the training and reading interactive fiction the participants were asked to speak in their native language. After the short training they started reading the first interactive story. The researcher asked the participants to speak about everything they read or saw as well as about their actions and feelings as they were reading a story. This instrument, again, helped the researcher to understand what difficulties the EFL learners participating in this case study had and the changes in their reading process. Think aloud protocol was used every time the participants started a new interactive story on the AUA campus.

The third instrument was an in-depth interview, which included pre-reading and post-reading interviews. During the interviews questions were asked and answered in Armenian. Before starting to read the first story the participants gave a pre-reading interview where the researcher asked general questions about the participants (see Appendix A). Each time after reading the first part of interactive fiction on the AUA campus and its continuation at home the participants were again interviewed. In those post-reading interviews they answered different questions connected with their reading process and the challenges they faced while reading interactive stories (see Appendix B - D).

The researcher also took field notes during the whole research including the recorded readings of the participants, which took place on the AUA campus. Those field notes helped with the collecting data and interpreting the findings.
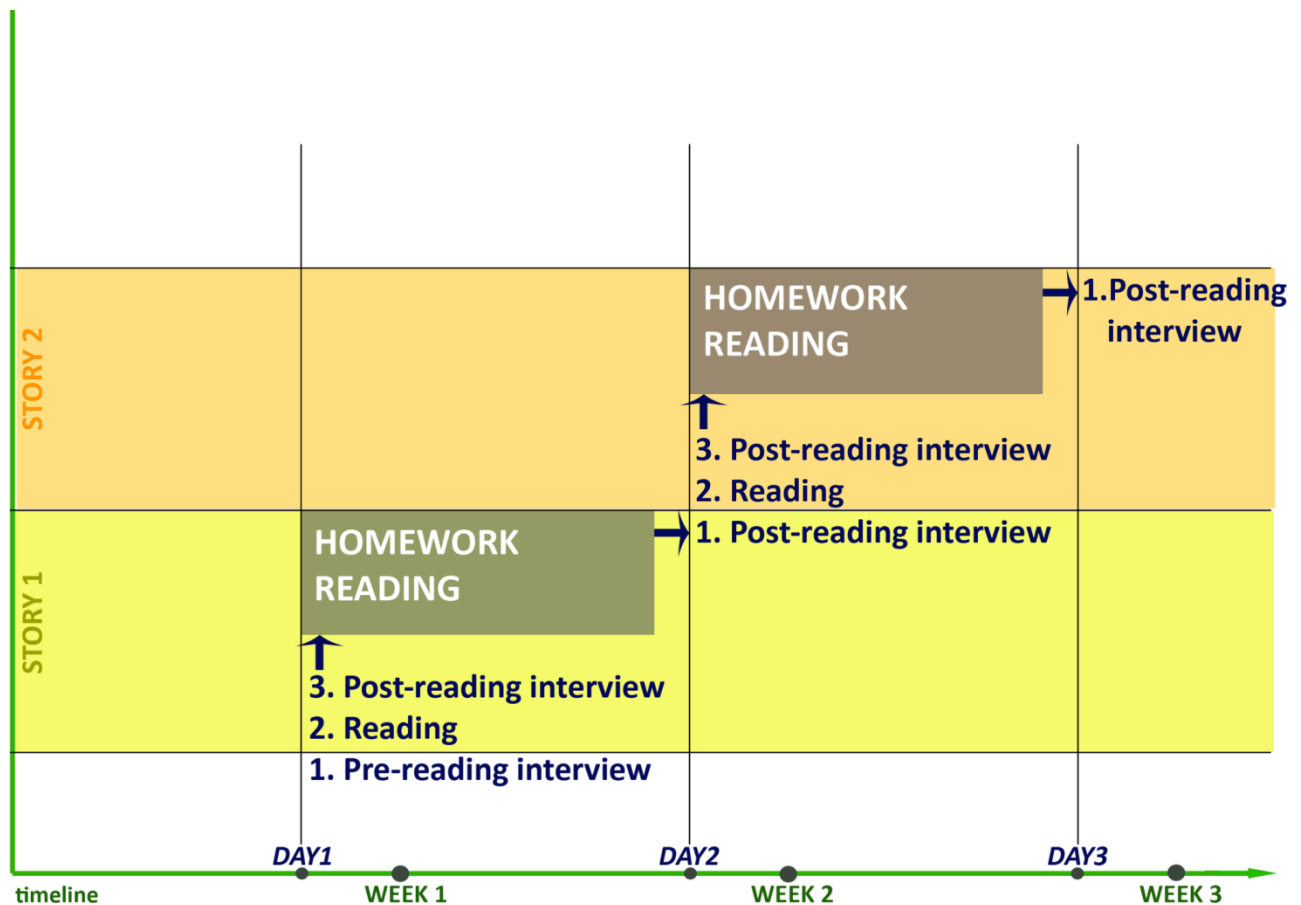
3.4. Procedure

As it was already mentioned above, that this study lasted five weeks. During the first week the participants came to AUA and once more were introduced to interactive fiction and this case study. Then, they gave the pre-reading interview, where they were given different general and personal questions (see Appendix A). After that, the researcher introduced them to think-aloud protocols and gave a short paragraph to read and think aloud for practice. Then, the participants started to read the first interactive story for about 15 – 20 minutes. The process of reading was video-recorded, and the participants spoke about their reading process while reading. After finishing the reading they immediately gave a post-reading interview where they answered different questions about their reading process (see Appendix B). Then, the participants were asked to continue and finish the reading of the first story during a week at home.

The next week the participants, again, came to AUA. They gave a post-reading interview where the researcher asked different questions connected with their homework reading (see Appendix C). Then, they started reading of the second interactive story, which they were reading, again, for about 15 – 20 minutes as the first one. This time as well, the reading process was video-recorded, and the participants were talking about their reading process while reading. After finishing the reading they immediately gave a post-reading interview where they answered different questions about their reading process (see Appendix B). The participants, then, were asked to continue and finish reading of the second story they have started to read on the AUA campus during a week at home.

The next week they came to AUA to give only a post-reading interview about their second homework reading (see Appendix C). After that, the researcher told the participants that

they did not have to come to AUA for reading interactive stories any more but they could continue reading interactive fiction for their pleasure if they wanted. The researcher gave them several links where the participants could find interactive stories of different genre, difficulty, interactivity, and read them at any place they want, alone or with someone else.

Figure 2. The procedure of this case study. This figure illustrates the procedure of reading interactive fiction for the first three weeks.

In three weeks the researcher met the participants and asked if they had read interactive fiction during the last three weeks (see Appendix D). That was the last step in the procedure, after which the researcher started evaluating the results.

CHAPTER FOUR: RESULTS

In this chapter the results of this case study are discussed. Each participant is considered a case. A narrative for each case will be provided first separately, and, then, the findings will be synthesized in the discussion and conclusion part making the effort to identify the most prominent patterns across the different participants. The discussion of the results is organized according to the steps the data was collected. The names of the participants and stories are considered as subheadings. Each case is starting from a new page. For anonymity purposes the real names of the participants have been replaced with pseudonyms.

Alice

Alice was a 29 years old student of the MA TEFL program of AUA and had advanced level of proficiency. She started studying English at school. Alice graduated from Linguistic University named after Valeriy Brusov. Then, she was worked as a teacher at school for three years. Alice mentioned in the pre-reading interview that she liked to express her thoughts in English as it is a very beautiful language. She said that she liked to watch movies and TV programs in English as well. Alice added that she would study English during her whole life as she liked that language much. She said that she liked to read books, especially novels and tragedies, and play educational computer games. Alice added that she was familiar with interactive fiction but had never read it. Therefore, it was a good opportunity for her to read interactive stories, and she agreed to take part in this research with great pleasure.

Snack time After the pre-reading interview Alice started to read the first interactive story. She was not very attentive during the reading. Several times Alice could not find the right solutions, but she did not get bored and continued trying different words in order to continue reading. On the other hand, recordings showed that Alice was very motivated to continue her

reading when she found the right solutions. It was clear that the story was difficult for her, especially, considering the fact that she was reading interactive fiction for the first time. Nevertheless, the interactive story was interesting to Alice and she continued reading it till the end of time.

In her post-reading interview Alice said that she did not have any difficulty connected with the language. She added that she could understand everything, since the vocabulary was familiar to her. She also had no difficulty with the spelling. Alice mentioned that she used the vocabulary list of the words specific to interactive fiction provided by the researcher, which helped her much. She said that one of the difficulties was that it was not possible to scroll the page in order to see the previous text, and because of it she could not remember the situation and find the right solutions. Another difficulty was that very often Alice could not understand what she was required to do. The fact that she knew she had only 15 minutes was also a challenge as Alice was trying to read as much as possible, therefore she felt some tension while reading the story. Overall, she said that she enjoyed the reading as it was very interesting, and she never got bored during the reading.

In one week Alice came to AUA to read the second interactive story. Before starting to read she gave a post-reading interview. Alice said that during the passed week she tried to read and finish the first story, which she started to read on the AUA campus. She mentioned that she started reading at 23:00 o'clock and continued for about 40 minutes. Alice read the story alone. According to her, during the reading she, again, did not have any difficulty with the language or the spelling. There were only one or two unknown words, which she could not remember during the interview. Nevertheless, she did not use a dictionary. Alice said that in order to find the right words she used the vocabulary. She added that scrolling the page was again a challenge. It was

also not clear what solution she had to give in different situations. After reading for 40 minutes Alice got bored as could not interact with the story, therefore, she did not continue and finish the story. She did not try to read that story again and did not read any other interactive story as well.

Loose After the post-reading interview Alice started to read the second interactive story, which was more difficult in terms of language and less interactive than the first one. For this story Frotz was used as an interpreter, which allowed not only to read the story but also to listen to it. The story also had a dark blue background color. After 2-3 minutes Alice reduced the sound as it was disturbing her. During the reading she mentioned (as she was asked to think aloud) that there were more unknown words than in the first story but she could understand the text and continue reading. Several times during the reading Alice did not know what she had to do. She was using the vocabulary and was trying different solutions to continue the story. Alice was reading this story with more interest than the first one.

During the post-reading interview Alice said she had some difficulties. First of all, she did not know who the hero of the story was and what her next step had to be. Nevertheless, she mentioned that she wanted to continue reading as it was very interesting, even, more interesting than the first one. Alice also added that the fact that the story was less interactive than the first one and that she could read larger amount of text after the correct answer was very motivating. According to her, it was not very difficult to read because the story was easier comparing with the first one, and she already had some little experience of reading interactive stories. On the other hand, Alice said that there were more unknown words (approximately, 6 - 8 words), which were not repeated in the story. Alice did not look for those words in the dictionary and did not remember them during the interview. She, again, did not have difficulties with the spelling. Alice mentioned that she did not feel uncomfortable because of short period of time (15 minutes) as

she did during the reading of the first story on the AUA campus. She added that the background color was not disturbing but the listening feature was. Therefore, she preferred only to read the story. Less interactivity of the story Alice liked much. Overall, she said that she enjoyed her reading and did not get bored, even, when she could not find the right solution.

In one week Alice came to AUA to give her last post-reading interview about her reading of the second interactive story at home (the one she started to read on the AUA campus a week before). Alice said that she started to read the story at home, at about 24:00 o'clock and continued reading for 40 minutes. During that time she read the same story alone for 3-4 times. Alice said that she had some difficulties, because of which she could not continue and finish the story. First of all, she did not understand what she was required to do and had difficulties with finding the solutions in order to continue reading. Alice mentioned that the story was difficult for her but the language was not. There were, approximately, three to four words, which she did not look for in the dictionary and did not remember. Alice added that she did not use the vocabulary. She said that she did not have any difficulty with the spelling and that the duration of the story was appropriate. The background color did not disturb her but the volume she reduced. Alice mentioned once more that less interactivity was very good. According to her, despite the fact that it was easier to read the interactive story after a little experience of reading such stores she did not enjoy her reading. She said that it was not interesting for her to read an interactive story. Therefore, she did finish the second story as well.

In three weeks the researcher met Alice again and asked if she had read any interactive story during the last three weeks. Alce said that she had not read as it was very boring for her to read interactive fiction.

Ani

Ani was a 24 years old architect. She started studying English at school. Then she studied this language in the university, after which she studied in English in the MA IESM program at AUA for one month. At the time this research was conducted Ani was working as an architect. She had an intermediate proficiency level. In the pre-reading interview she mentioned that she had learnt English in order to read books written in that language, watch movies in English and communicate with English speaking people. Ani said that she liked to read books very much, especially, novels and utopia, but did not like to play computer games. She mentioned that she was not familiar with interactive fiction before, and it was interesting for her to read a story in such interesting format.

Snack time After answering the questions Ani started to read the first story. From the first minutes she was very attentive during the reading. Recordings showed that she was able to find the right solutions from the beginning but from time to time she had some difficulties with finding the correct solutions. Nevertheless, Ani did not get bored and tried different words in order to solve the problem and continue reading. During the reading several times she used the vocabulary list of the words specific to interactive fiction, which the researcher gave her. Based on the thoughts, which Ani expressed aloud during the reading, it could be said that the story was difficult for her, especially, considering the fact that she did not have any experience of reading interactive fiction before. Ani read the story for 15 minutes and did not want to stop the game.

In the post-reading interview, Ani said that she did not have any difficulty connected with the language. She could understand everything, as there were few words (approximately, 1-2 words) in the text, which she did not know. She did not look for their meanings in the dictionary

and could not remember those words during the interview. Ani mentioned that she did not have any difficulty with the spelling as well. As she added that she was not anxious and did not feel uncomfortable during the 15 minutes. Ani mentioned that she used the vocabulary to find the right words, which helped her in some cases but it would be better to have more words in that list. She said that one of the challenges was that it was not possible to scroll the page in order to see the previous text, and because of that it was difficult for her to find the right solutions. According to Ani, the number of solutions was very limited, especially for the one who is reading interactive story for the first time. Therefore, the story was difficult for her. Ani mentioned that because of these challenges it was not very interesting for her to continue reading interactive story. Nevertheless, she said that, overall, she enjoyed her reading.

In one week Ani came to AUA to read the second interactive story. Before starting to read she gave a post-reading interview, during which Ani said that during the last week she tried to read and finish the first story she started reading on the AUA campus. Ani started reading at 24:00 and continued for about two hours. Ani read the story with her husband who was also a participant of this study. She said that they had some challenges. First of all, they had a difficulty with orientation as they could not understand clearly where they were and what they were surrounded by. Therefore, they needed more information and details for descriptions. Moreover, Ani suggested that it would be better to include a map with interactive stories, which would help the readers a lot. Next, she said that it would be better to have more hints as well as alternative options, which would be very helpful. Then, Ani mentioned again that they could not scroll the page to see the previous text, which was another challenge. She added that those difficulties made their reading longer, and sometimes boring. Nevertheless, they continued reading, but after several hours they did not reached the end, stopped reading and did not read neither that nor any

other interactive story. Ani said that despite the fact that the story was difficult for them, they did not have challenges with the language as there were no unknown words. The spelling was not a difficulty as well, but for some words they looked in the dictionary to check their spelling. They also used the vocabulary, which helped them a lot. "The duration of the story was not a challenge", said Ani.

Loose After the post-reading interview Ani started to read the second interactive story on the AUA campus. This time as during the first time she was reading very attentively. During the reading she, first of all, switched off the sound as it was disturbing her. Then, from her speech it was clear that she had lack of information and could not understand what to do or write. It was seen from the video and Ani confirmed that during the interview that there were also not enough alternative solutions, which made her reading more difficult. From time to time Ani could not find the right solutions but after trying different options was able to continue reading. Scrolling the page was, again, a challenge.

During the post-reading interview Ani said that this story was more interesting. There was more action, more description, and more text in that story than in the first one, which was good. Nevertheless, she mentioned that the author of the story could provide more information in the introduction part. Ani said that less interactivity of the story was very good, but the listening option and the dark blue background color were very disturbing. She added that the story was not difficult, but the language was more challenging than the first story's. There were, approximately, 5-6 unknown words in the text, which she did not look for in the dictionary and could not remember. Ani said that the vocabulary sometimes helped her to find the right words. She mentioned that difficulties with the spelling she did not have. Time (15 minutes) was not a challenge as well. Ani said that it was easier to read the second interactive story as she already

had a little experience of reading such stories. On the other hand, she mentioned that the difficulties she had affected her reading much. She did not want to continue reading as did not enjoy it.

In one week Ani came to AUA for the last post-reading interview. She was asked different questions about her reading of the second interactive story at home. Ani said that she read the story at 21:00 pm. This time she read it alone for 3-4 hours. During these hours she read the same story for 3-4 times. All 3-4 times she was not able to finish because of the difficulties she had. Ani mentioned that one of the challenges was that the story was difficult for her. Despite the fact that she read all the hints of the story it was difficult to read the story. Then, she added that she made her own map in order to imagine the environment and situation better. According to Ani, the language was also a little difficult. There were, approximately, 10-12 unknown words in the text. Some words such as *pin, solicitor,* or *lamb,* which were used more frequently, she could remember. For checking the meaning and spelling of unknown words Ani used a dictionary. She mentioned that she used the vocabulary, which the researcher gave her, but she also found and used other vocabularies with the words specific to interactive fiction. These vocabularies helped her much. Ani said that the spelling and the duration of the story were not challenges. She added that the difficulties she had affected her reading as she got tired but did not make her not to continue reading. According to Ani, the only reason she stopped reading was that she had spent several hours on her reading and was very tired to continue reading. The fact that she could not save the story and continue reading in another time was the reason of not finishing reading the story because it was time consuming and not interesting each time to start reading the same story from the beginning. Ani said that the dark blue color was not disturbing her, but the listening feature, was. She liked also less interactivity of the story. According to her,

it was much easier to read the second interactive story as the structure was already familiar to her. Ani mentioned that she enjoyed her reading and did not get bored. Then, she added that she would like to continue reading interactive stories not for the research but for herself.

In three weeks the researcher called Ani again and asked if she had read any interactive story during the last three weeks. She said that it was very interesting to read interactive fiction but she had not read any because of the business. Ani mentioned that she did not have time to read during those last three weeks but she will read for sure in the future as she is interested in interactive fiction a lot.

Alex

Alex was a 29 years old architect. He started studying English at school. Then he studied this language in the university, after which he was a student of the MA IESM program of AUA for one month. Alex and Ani (other participant of this study) were a couple. At the time this research was conducted Alex was working as an architect. He had an intermediate level of proficiency. In the pre-reading interview Alex said that the English language had an important role in his life as it was a beautiful and international language He liked to watch movies and read books, especially, novels and philosophic ones in English. Alex also added that he liked to play computer games, especially strategies. He said that he was not familiar with interactive fiction.

Snack time After the pre-reading interview Alex started to read the first interactive story. He was reading very attentively. Alex was not speaking much during his reading but it was clear that he had some difficulties in the beginning as he was not able to interact successfully. Several times during the reading Alex could not find the correct solutions but tried different words and continued the reading.

After finishing the reading of the story Alex gave a post-reading interview. He said that he had some challenges. First of all, it was difficult to imagine the environment were the hero of the story was and there was lack of information in the descriptions. Alex mentioned that pictures would be very helpful in such situations. Second, as he added, the structure of the text was difficult. There was limited number of solutions, because of which it was difficult to read the story. According to Alex, the language of the story was not a challenge at all. There were, approximately, 1-2 unknown words, which he did not remember during the interview. This participant did not have difficulties with the spelling. Time (15 minutes) was not a challenge as well, in spite of the fact that he felt somehow anxious during the first several minutes. Alex said

that he was so much concentrated on the reading that he forgot to use the vocabulary list of the

words specific to interactive, which the researcher gave him. Nevertheless, these difficulties did

not make him stop reading. Alex mentioned that he enjoyed reading and did not get bored.

In one week Alex came to AUA to read the second interactive story. Before starting the

reading he gave a post-reading interview, during which he said that he tried to read and finish the

first story he started reading on the AUA campus during the last week. Alex said that he started

to read at about 23:00 and continued for about three hours. He read the first two hours alone and

the last hour – with his wife who was a participant of this study as well. Alex mentioned that he

had different kind of difficulties. One of the major challenges was the lack of graphics (pictures,

maps, etc.), because of which he had some difficulties with orientation and could not imagine the

environment or the situation. Then, Alex said that the clues for the solutions were verylimited,

especially for the one who was reading interactive story for the first time. Another challenge was

the fact that he could not scroll the page to read the previous text. Therefore, he was typing the

appropriate word to go back to the descriptions each time he wanted to read the last text but each

time he found new things in the same environment. Alex added that the story was difficult, but

the language was not. There were 1-2 unknown words in the text, which he could not remember

during the interview. He said that he did not use a dictionary, but used the vocabulary much. The

only word he could remember during the interview was "bark". According to Alex, the spelling

was also not a challenge. As he mentioned the duration of the story would not be a difficulty if it

would be possible to save the story and continue reading another time, but as it was not possible

time was another challenge. He added that it was very difficult to read for several hours and it

was also not interesting each time to start reading from the beginning. Alex said that it was

sometimes difficult to be the hero of the story who can be an animal. He mentioned that the

challenges affected his reading much and made him and his wife not to continue reading. They did not read the same story again or start a new interactive story. Nevertheless, Alex mentioned that he enjoyed his reading and did not get bored.

Loose After answering the questions about the reading experience of the interactive story at home Alex started to read the second story for 15 minutes. During this period of time he was reading very attentively and used the vocabulary. He switched off the volume after several minutes and preferred only reading without listening to the text. During the reading Alex mentioned that he could not understand what solution he had to give but after trying different options he was able to continue the reading.

During the post-reading interview Alex said that he, again, had some problems. One of them was that the situation was not clear, and he could not understand what he was required to do. He said that he did not read much to say if the story was difficult or not but the language and the descriptions were more difficult than in the first one. There were for about five words in the text, which he did not know, and which he could not remember during the interview. Alex mentioned that he did not use a dictionary, but used the vocabulary. He did not have difficulties with the spelling. Time (15 minutes) could be considered a challenge as he felt somehow anxious because he wanted to think a little but time was short. Alex said that the background dark blue color as well as the listening feature of the story was a little disturbing. The difficulties he had made the pace of his reading slower but did not make him not to continue the reading. He mentioned that less interactivity of this story he liked much as it was interesting to read more when the solutions were correct. Alex added that the fact that he had already a little experience of reading interactive fiction helped him feel more comfortable and confident. Overall, he enjoyed his reading and did not get bored.

In one week Alex came to AUA for the last post-reading interview. He answered different questions about his reading process of the second interactive story, which he started to read a week before on the AUA campus. Alex said that he read the story at home, at 24:00 o'clock. He read the story once for 1.5 hours. This time Alex read the story alone. He said that in order to continue reading the story effectively he used the hints of the story, which helped him to understand the problem. Nevertheless, Alex mentioned that there was luck of hints in the story. He added that it was also difficult to imagine the map. Therefore it would be better to have some kind of navigator during the story. Then, Alex said that the story was difficult but the language was not. There were, approximately, 15 unknown words in the whole story, which he did not look for in the dictionary and did not remember during the interview. Alex mentioned that he used the vocabulary, which helped him a lot. As during the previous readings, he did not have any difficulty with the spelling. The duration of the story was not a challenge as well. According to Alex, the background dark blue color was a little disturbing and white color was better. He added that he did not use also the listening feature of the story and reduced the volume during the reading. On the other hand, less interactivity he liked more. Alex said that the difficulties he had affected his reading process negatively. Nevertheless, he mentioned that these challenges did not make him not to continue reading the story. He added that it was easier to read the second interactive story as he already had an experience of reading such stories. According to Alex, overall, it was interesting to read interactive fiction and he enjoyed his reading. He mentioned that he never got bored during the reading, even, when he had some challenges.

In three weeks the researcher met Alex again and asked if he had read any interactive story during the last three weeks. He said that he had not read as he had lost the stories given by

the researcher but he took again several stories from the researcher as, according to him, it was interesting to him to read interactive fiction.

Mary

Mary was a 15 years old student of EEC and had advanced proficiency level. She started studying English at school. She had an intermediate level of proficiency. In the pre-reading interview Mary said that it was very important for her to know English. She mentioned that she was reading much in that language. Mary liked to read books, especially, adventures and novels. Then, she added that she liked to watch different movies, TV programs, and videos in English. Mary said that she liked to play different type of computer games much. She was not familiar with interactive fiction before.

Snack time After the pre-reading interview Mary started to read the first story on the AUA campus. She read the story for 15 minutes. Mary was not reading very attentively and the fact that she was not able to scroll the page in order to go back was a challenge for her. Moreover, the story was also difficult for her. It was seen from the video that despite the fact that she was using the vocabulary list of the words specific to interactive fiction given by the researcher and trying different words, she was struggling with finding the right solution. Therefore, she was not able to interact and continue reading and soon was disappointed.

During her post-reading interview Mary said that she had difficulties. She confirmed that one of the major challenges was finding the right solutions. Mary did not know what to do. The vocabulary did not help her to find the solutions and continue reading. During the interview Mary mentioned that the spelling was another challenge for her. She added that during the 15 minutes she felt anxious as she wanted to read much but could not because of the challenges she had. According to Mary, the story was difficult, but the language was not. There was only one word that she did know, which she could not remember during the interview. Mary said that the

difficulties did not make her not to continue her reading and it was interesting to read an interactive story.

In one week Mary came to AUA to read the second interactive story. Before the reading she answered the questions about her reading process of the first story, which she started on the AUA campus and continued at home. She said that she read the story once at 22:00 o'clock and continued reading for 20 minutes. During that time she read the story alone for one time. This time she, again, had problems during the reading. One of the difficulties was that she could not understand the next step. Mary mentioned that she was not able to find the right solutions, solve the problems and interact with the story. She added that the story was difficult for her but the language was not. There were, approximately, two unknown words, which she did not look for in the dictionary and could not remember during the interview. Mary said that she did not use the vocabulary. According to her, the spelling was not a challenge. She mentioned that the duration of the story was not a difficulty as well. Mary said that the problems she had affected her reading much and, finally, she got bored and stopped reading without finishing it.

Loose After post-reading interview Mary started to read the second interactive story on the AUA campus for 15 minutes. In several minutes she switched off the volume, then, she switched it on again and was reading as well as listening to the story until the end. It was obvious that this time Mary, again, had difficulties during the reading. One of the challenges was that she could not find the correct solutions and solve problems. She was writing different words to find them. Several times she was able to interact with the story and continue reading. Nevertheless, it was clear from Mary's talk that she was disappointed.

During the post-reading interview Mary said that she did not have many difficulties during the reading. This time as during the previous readings she could not understand what she

was required to do. She did not use the vocabulary. Mary mentioned that she did not have challenges with the spelling. This time she did not feel anxious because of the limited time. Mary added that the background color and the listening feature were not disturbing. According to her, this story was easier than the first one, but the language was more difficult. There were, approximately, 3-4 new words, which she did not remember. Mary said that the challenges she had did not affect her reading and did not make her not to continue it. She mentioned that from time to time she got bored but, overall, she enjoyed her reading. Moreover, Mary added that she felt more confident as she was already familiar with interactive fiction.

In one week Mary came to AUA for the final post-reading interview. She said that she read the second interactive story at home at 23:00 once for 2 minutes. She mentioned that during the two minutes the dark blue background color and the listening feature did not disturb her. As the time was too short she did not notice that the story was less interactive. According to Mary, the spelling was not a challenge as well. She added that she read very little but during that short period of time the language was not difficult. There were, approximately, 2-3 unknown words, which she did not look for in the dictionary and could not remember. Mary said that the main problem was that she could not find the right solutions in order to interact with the story and continue reading, and, even, the vocabulary did not help her. She mentioned that the story was difficult and boring, as well as there were not much clues. Therefore, it was difficult to read it. Mary mentioned that interactive fiction requires much time for reading. Therefore, the duration of the story was also a challenge for her. She added that those problems affected her reading much because of which she did not enjoy it. Mary did not continue her reading and stopped it after two minutes without finishing it.

In three weeks the researcher met Mary again and asked if she had read any interactive story during the last three weeks. Mary answered that she had not read as interactive fiction was not interesting to her.

Lily

Lily was a 15 years old girl who was a student of EEC at the time she took part in this research. She had advanced proficiency level. During the pre-reading interview she said that she started studying English when she was six years old. Lily mentioned that English was the language, which she wanted to use all the time. It helped her to communicate with her friends, watch movies, listen to music, and read books in English. Lily was interested in love stories and adventures. She said that she also liked to play different kind of computer games, especially, puzzles and problem-solving ones. Lily added that she had not read interactive fiction before.

Snack time After pre-reading interview Lily started to read the first story for 15 minutes. From the beginning it was clear that this girl was reading very attentively, could easily find the right solutions and interact with the story successfully. Nevertheless, several times Lily had some difficulties as she did not know what to write.

After finishing reading Lily gave a post-reading interview. During the interview she said that the only difficulty was that from time to time during the reading she could not find the right solutions, but it did not make her not to continue the reading. Lily mentioned that the story as well as the language was easy for her, and there were not many unknown words in the text. She added that she did not have any difficulty with the spelling. Lily said that she got bored only when she could not find the right solutions, but, overall, she enjoyed her reading.

In one week Lily came, again, to AUA to read the second interactive story. Before starting to read she answered questions connected with her reading of the first story at home.

During this post-reading interview Lily said that she read the interactive story between 19:00 and 20:00 alone. She could read and finish the whole story in one hour. It is worth to mention, that Lily was the only participant who was able to finish the first interactive story. Nevertheless, she said that this time she, again, had a difficulty with finding the correct solutions and several times during the reading it was not clear to her what she was required to do. The vocabulary list of the words specific to interactive fiction she did not use. According to Lily, this challenge not only did not make her not to continue her reading but it made the reading more interesting. Lily mentioned that not the story, neither the language was difficult for her, and there was not any unknown word in the text. She did not have any difficulty with the spelling and the duration of the story as well. Lily said that it was interesting to read a story in this format. The only thing was that the readers should be very attentive.

   Loose After the post-reading interview, Lily started to read the second interactive story, which was more difficult in terms of the language but less interactive. As it was already mentioned above, this story had a dark-blue background color and listening feature. Lily did not reduce the volume during the 15 minutes while she was reading the story. The impression was that this time she felt more confident. Despite the fact that few times during the reading she had a problem with finding the correct solutions Lily could easily read and interact with the story. As during the previous readings she did not use the vocabulary.

      After finishing the reading Lily answered the questions connected with the reading process. She said that she did not have any difficulty during her reading but the time was little as she wanted to read more. The story as well as the language was easy and there were not unknown words in the text. Lily mentioned that she did not have also a difficulty with the spelling. She added that the dark-blue background color and the listening feature were not

disturbing her. Lily liked also less interactivity of the story. According to her, it was easier to read the story as she already had a little experience of reading that type of stories. Lily added that she enjoyed her reading much.

In one week Lily came to AUA to give her last post-reading interview about her homework reading of the second interactive story. She said that she read the story between 20:00 and 21:00 o'clock alone, for 1.5 hour. Lily mentioned that she did not have any difficulty during the reading process. The story and the language were easy for her but there were 3-4 unknown words in the whole story. She did not use dictionaries and could not remember those words during the interview. She did not use the vocabulary as well. Lily added that the spelling and the duration of the story were not challenges. As during the previous interview this time as well Lily said that the dark blue background color and the listening feature of the story were not disturbing. She mentioned that less interactivity of the story was better. Lily was the only participant who finished the second interactive story but she did not start a new one. Lily added that she enjoyed her reading and said that it was interesting for her to read interactive fiction.

In three weeks the researcher met Lily to ask the last questions. During the interview Lily said that she did not read interactive stories because she had some exams and did not have time to read interactive fiction. Lily added that it was interesting to read such stories and if she had time she would read in the future.

David

David was a 16 years old student of EEC at the time this research was done. His level of proficiency was at the intermediate level. David started studying English at school. He said that English was very important for him. David mentioned that he was using English, especially, for the Internet, reading books, or for communicative purposes while traveling. He added that he liked to read, especially, adventures but did not read interactive fiction before. David also liked to play different computer games but not often.

Snack time After the pre-reading interview David started to read the first interactive story on the AUA campus. While he was speaking during the reading the impression was that he was not reading attentively, and several times returned to the same place. Think aloud protocol showed, and David confirmed that later during the interview, that the language was easy for him. On the other hand, the researcher had feeling that the story was difficult, as he could not find the right solutions and continue the reading. Nevertheless, he was not disappointed and was trying different words to find the right choices. It was interesting that despite the difficulties David did not use the vocabulary list of the words specific to interactive fiction provided by the researcher, which could help him.

During the post-reading interview David confirmed that he, indeed, had a difficulty with finding the right solutions, because of which he could not read and interact. He also corroborated that the language was also easy and there were, approximately, two words, which he did not know. What did not coincide with the opinion of the researcher was that David said that the story was not difficult for him. According to him, the spelling was not a challenge as well. David added that he did not feel anxious during the 15 minutes and it was interesting to read a story of this format.

In one week David came to AUA again to read the second interactive story. Before starting to read he gave a post-reading interview and answered the questions about his homework reading of the first story. David said that he read the story at home, approximately, at 13:00 o'clock, alone. He read the story for one hour and could not finish it. David mentioned that he did not have any difficulty. According to him, the story as well as the language was easy for him and there were only 1-2 unknown words. One of the words, which was the word *bark* he looked in the dictionary. David added that he used the vocabulary, which helped him to find the correct solutions. He said that the spelling and the duration of the story were not challenges. Despite the fact that David was sure that he did not have any difficulty he could not finish the story. At the end he said that it was not boring to read interactive fiction but, at the same time, he did not enjoy his reading much, which, according to the researcher, was the most possible reason not finishing the story.

Loose After the post-reading interview David started to read the second interactive story. This time he felt more confident and could read and interact in a better way than during the first reading. From time to time he had some problems with finding the right solution but after trying several words he could continue reading. It was not clear from his speech if the language or the structure of the story were difficult for him or not.

In the post-reading interview David said that this time he had some challenges. Both the story and the language were difficult for him as he could not understand the text. David mentioned that there were 7-8 unknown words, none of which he could remember. The list of the vocabulary he did not use. According to David, the difficulties of course affected his reading but did not make him not to stop it. He added that the listening feature was disturbing. Therefore, he switched off the volume. The dark blue background color was also frustrating. What David liked

was less interactivity of the story. He said that as during the previous readings this time as well he did not have any difficulty with the spelling. David mentioned that, overall, he enjoyed his reading and said that it was easier to read the second story as he already had some experience of reading this kind of stories.

In one week David came to AUA for the final post reading interview. During the interview he said that he read the second interactive story at home at 13:30 for one hour. During that time he read the story once for 30 minutes, alone. Then, David read the same story for the second time with his brother Artak who was another participant of this study. He mentioned that they had some difficulties. The main challenge was that sometimes it was not clear what they were required to do. David added that the story was difficult but the language was not. There were, approximately, 2-3 unknown words in the text, which they looked for in the dictionary but could not remember during the interview. The vocabulary brothers did not use. David mentioned that they did not have difficulties with the spelling but, then, added that one of them was reading the story and the other one was looking for the spelling of different words in the dictionary. He said that the duration of the story was not a challenge. According to David, the background color as well as the listening feature were disturbing. Less interactivity was good, and it was easier to read as they had some little experience of reading interactive fiction. Nevertheless, he mentioned that the difficulties they had affected their reading so much that they did not continue and finish the story.

In three weeks the researcher met David again in order to see if he had read interactive fiction during the last three weeks. David said that he did, and he was the only participant who had read interactive stories after finishing the research. David mentioned that he was interested in interactive fiction much. Therefore, he continued to read interactive stories. He said that he

read four interactive stories but was not able to finish them because of the challenges he had during the readings. David read the stories at home, in the evenings. Each story he read alone for one hour. For reading interactive stories he used Gargoil interpreter, which did not have listening feature and dark blue background color. One of the problems was that very often he could not understand the situations. Therefore, he was not able to find the right solutions. David said that the language of those four stories was not difficult for him, and there were, approximately, 5-6 unknown words in each story. To check the meaning of those words he used a dictionary. The vocabulary he did not use. David mentioned that he did not have any difficulty with the spelling. In contrast, the duration was another challenge, as he did not have much time to read interactive stories. Nevertheless, David added that he enjoyed his readings much and would continue to read interactive fiction in the future as well.

Artak

Artak was a 14 years old boy. During the time this research was done he was an EEC student and had an intermediate proficiency level. Artak and Davit (another participant of this study) were brothers. During the interview Artak as his brother Davit started studying English at school. He said that he was studying English in order to use the Internet and communicate while traveling. Artak added that he did not like to read books as well and he did not hear about interactive fiction before. Arak also mentioned that he rarely played computer games.

Snack time After the pre-reading interview Artak started to read the first interactive story. During the reading he did not speak much, even, after several reminders of the researcher that he had to think aloud and speak about his reading process. The impression was that Artak did not understand what he had to do, despite the fact that before starting reading the researcher explained all the rules and details of interactive fiction. Several times Artak asked the researcher questions but could not continue the reading, even, after some additional help by the researcher. It was clear that the language as well as the structure of the story was difficult for him, because of which he could not understand the story and find the right solutions.

After the reading Artak gave a post-reading interview, during which he said that that he had many difficulties. First of all he did not understand the meanings of some words (approximately, 5 unknown words), because of which he could not understand the situation and choose the right solution to continue the reading. Artak also confirmed that the story was structured in a difficult way. He said that the vocabulary list of the words specific to interactive fiction helped him but not much. Artak added that the only thing, which was not a challenge for him, was the spelling. It was interesting that he mentioned that in spite of so many difficulties

and the fact that he could not read the story effectively he did not get bored and, even, enjoyed his reading.

In one week Artak came to AUA to read the second interactive story. As other participants before starting to read he gave a post-reading interview about his homework reading of the first story, which he tried to read a little on the AUA campus a week before. He said that he read the story at home at 19:00 alone for one hour. Artak mentioned that he had difficulties, because of which he was not able to read and continue reading. He added that the story was difficult but the language was not. The only unknown word was *bark* (It is surprising that several intermediate participants said that the word *bark* was new for them). According to Artak, the spelling was not a challenge. Instead, he had difficulties with finding the correct solutions. The duration of the story was another challenge. Because of these difficulties Artak got bored and did not continue his reading. He did not finish the story as did not enjoy the reading at all.

Loose After the post-reading interview Artak started to read the second interactive story. This time he was feeling more comfortable. He did not have problems with the rules and could better interact with the story. Several times during the reading he had difficulties with finding the right solution, but after trying several options could continue the reading. Nevertheless, he was not interested in reading much. The impression was that Artak did not like interactive stories.

After the reading Artak answered the questions about his reading process. He said that, especially, at the beginning he had some difficulties as he did not know how to continue his reading. Artak mentioned that the structure of the second story was easier than the first one. Instead, the language was more difficult. There were, approximately, 10 words which he did not know. According to Artak, the vocabulary helped him. He said that he did not have challenges with the spelling and finding the right solutions. On the other hand, he could not understand what

he was required to do. The background color and the listening feature disturbed him. To the question "Was less interactivity better?" Artak answered that he did not, even, notice it. Nevertheless, he mentioned that he did not get bored and enjoyed his reading as this time it was easier to read as he already had some experience.

In one week Artak came to AUA to give his last post-reading interview. He said that he read the second interactive story at home at about 14:00. He read once for 30 minutes together with his brother David. Artak mentioned that he was struggling with the spelling. Therefore, he was looking for the spelling of the different words in the dictionaries during the whole reading process. According to Artak, it was also not clear what he had to do. Therefore, he was not able to find the right solutions many times during the reading. Then, he added that a map could be very helpful in that kind of situations. Artak said that the story was difficult but the language – was not, as there were 2-3 words, which he did not know. He mentioned that during the reading he did not use the vocabulary. Artak added that the dark blue background color and the listening feature were disturbing but less interactivity of the story was better. According to him, the duration of the story was not a challenge. He said that the difficulties did not affect his reading process and did not make him not to continue the reading, but after reading for 30 minutes he stopped reading without finishing it. Then, Artak said that it was easier to read the second story as he was familiar with rules of interactive fiction. Artak mentioned that it was a little boring but, overall, he enjoyed his reading. The only thing was that it was not clear why Artak stopped reading without finishing it if the duration of the story was not a challenge, the difficulties did not affect his reading process, and he enjoyed his reading.

In three weeks the researcher called Artak and asked if he had read any interactive story during the last three weeks. Artak answered that he did not have time as well as it was not interesting to him to read interactive fiction.

In this chapter the results of the case study were analyzed. Each case was discussed separately. In the following chapter the findings will be synthesized and summarized. Specific recommendations will be also offered.

CHAPTER FIVE: DISCUSSION AND CONCLUSION

In this part the results of this case study will be synthesized and summarized. Then, specific recommendations will be also offered. Finally, the delimitations and limitations of this study will be discussed.

The aim of this study was to explore what challenges EFL learners may have while reading interactive fiction. Findings indicate that EFL learners of this study had two main categories of challenges: those related to story structure and those related to software.

5.1. Challenges Related to the Story Structure

The most frequent difficulty, which all seven participants had, was <u>finding the right solutions to move along the story</u>. During all the readings the participants very often could not understand what they were required to do. Therefore, they could not find the right solutions. It is possible that the participants had this problem due to the fact that the interactive stories were structured in a difficult way. All the participants used the vocabulary list with the words specific to interactive fiction most of the time, which helped them much, but, even, with that list often it was not clear to them what they had to write in order to continue reading. One participant, even, found other vocabulary lists specific to interactive fiction. According to several participants, the number of solutions was very limited.

<u>Language</u> difficulties had three participants. They reported that there were, approximately, 8-10 words in each story, because of which they could not understand the situation correctly and interact successfully. It is interesting that only one of those participants who had a language challenge used a dictionary for checking the meanings of the unknown

words. For other four participants language was not a difficulty during the readings of both stories and there were only 2-4 unknown words in each of them.

Another difficulty was with <u>orientation</u>. Half of the participants mentioned that they could not understand clearly where they were and what they were surrounded by. One of the participants made her own map in order to imagine the environment or the situation better. Not only the map but also some graphics or pictures would be very useful and helpful.

<u>The duration</u> of the stories was challenging as well. Two participants did not continue and finish the stories because interactive fiction requires much time to read. Nearly, half of the participants read each story for 1-2 hours. They reported that they were not able to dedicate many hours to reading interactive stories as they were busy with their work, studying, etc., but if it took less time they would be able to read interactive fiction during their free time.

5.2. Challenges Related to Software Usability

Another category of challenges was software related. A difficulty, which most of the participants had during their readings, was connected with the <u>ability to go back</u>. They said that it was not possible to scroll the page in order to see the previous text, and because of that they could not remember the situation and find the right solutions. Some of the participants were typing particular words in order to go back to the previous environment to read the descriptions and situations again and interact meaningfully. Others were struggling for some time writing different words until they could find the right solutions.

<u>Misspelled words</u> were also a challenge for less than a half of the participants. One of them did not use a dictionary but the other one was looking for the spelling of different words in the dictionaries during the whole reading process, because of which got bored and tired.

Therefore, he stopped the reading. The other five participants did not have any difficulty with the spelling.

Difficulty with saving the story had two participants. It was a challenge because if the participants could save the story and continue reading it another time they would have a chance to finish it. In this case the duration would not be a challenge any more. Only two participants said that not having an opportunity to save the story was a difficulty for them but, I think, that if other participants could save their stories they also would not only finish the stories but enjoy their readings as well.

Most of the participants said that the listening feature of the second interactive story was very disturbing. Therefore, they reduced the sound and were only reading the interactive story without listening to it.

The dark blue background color was also disturbing for more than the half of the participants of this study. In this case they were not able to change it. The participants reported that they could hardly read the story because of the dark background color. They mentioned that it would be much better if the color was white.

5.3. Other Challenges

There was also another factor, which could affect the readings. More than the half of the participants also read the stories in the evenings, which could also affect their reading process, as they were already tired in the end of the day.

5.4. Positive Features of Interactive Fiction

What the participants liked was the less interactivity feature of the second story. Most of the participants said that it was more interesting to read more text after writing the correct

solutions. Those who read the stories alone and together with someone else also mentioned that it was more interesting and easier to read together with another person than alone. Moreover, all the participants said that it was much easier to read interactive story after they had some experience of reading such stories. Near half of the participants mentioned that they did not have time to read an interactive story during three weeks after finishing the research but they will read interactive fiction when they have time in the future.

Despite the fact that most of the participants had many challenges and got bored from time to time during the readings, they mentioned that they enjoyed their readings as it was very interesting, At the same time, it was not very clear from the data why some of them did not finish the story, or did not read any other interactive story during three weeks after finishing the research.

5.5. Connections with Previous Research

Some of the challenges found here are in accordance with previous studies. For example, as it was already mentioned in the literature review that the results of the study done by Neville, Shelton and McInnis (2009) showed that interactive stories were too difficult for the German students studying in the university. Findings of this case study also indicate that interactive stories are difficult for EFL/ESL learners. First, the participants of this study had many difficulties with finding the right solutions to move along the story, which was because of the difficultly structured stories. Second, for some of the participants who had intermediate level of proficiency language was also a challenge, which could mean that the language of interactive stories is not appropriate for teaching EFL/ESL students. Other findings such as challenges with misspelled words or duration of the stories also coincide with the results of the previous studies.

In this study were found also some other challenges, which EFL learners may have during reading interactive fiction. For example, previous studies did not show that EFL/ESL learners may have any difficulty with <u>orientation</u>, <u>ability to go back</u>, or <u>saving</u>, which was found in this research.

All the challenges found in this research and in the previous studies as well show that the structure as well as the language of interactive fiction should be changed to feet the requirements of EFL/ESL learners. Some software changes should be also done in order to make the interaction easier. In other words, the stories should be written and constructed in an easier way, and the technical problems should be also eliminated. Otherwise, it would be impossible to use them for the teaching purposes.

5.6. Recommendations

Based on the results of this study one recommendation would be to have more information and details for descriptions. It is also essential to have more hints as well as alternative options for each situation, which would help the readers to interact in an easier way and enjoy reading more. Map and some graphics or pictures would be very useful and helpful as well.

It would be very useful to integrate a vocabulary list with the words specific to interactive fiction as well as a dictionary on demand into the interface, as most of the participants of this study used them during their readings. Integration of recommended options for the misspelled words into the interface would be also very helpful.

Another recommendation is to make it possible to go back. This will allow the readers to see the previous text and interact more successfully.

The readers might feel more comfortable if it was possible to switch background color from black to white and vice versa. They could have an opportunity to choose the one, with which it would be easier for them to read.

As most of the participants were reading interactive stories late in the evenings, another recommendation would be to make interactive fiction available for Apple and Android operating systems (smartphones or tablets).

My last recommendation is to give the readers of interactive fiction an opportunity to save the story, and continue the reading some time later. This way, the duration of the story will not be a challenge any more as the readers will not have to read for many hours in order to finish the story. Also, they will not get bored by reading the same story several times in order to continue reading from the point they have stopped.

5.7. Suggestions for Further Research

In this study, I tried to identify the challenges EFL leaners may have during the reading of interactive fiction. Individual cases were studied and only two interactive stories were used. For further research I suggest to do a quantitative study with a large sample size and explore the challenges found in this study more in depth as well as find out what other difficulties EFL/ESL learners may have while reading interactive fiction. It would be also interesting to see if the challenges identified in this study differ according to gender, age, level of proficiency, or other key variables. With a large sample size it would be also interesting to look for levels of engagement, interactivity patterns among readers, and measures of language acquisition. Another suggestion is to use more interactive stories of different genre, difficulty, and interactivity.

5.8. Delimitations

One of the delimitations of this study was the proficiency level of the participants. Only higher levels were considered, such as intermediate and advanced. The researcher was not interested in the lower levels of proficiency as the chosen interactive stories would be very difficult for the EFL/ESL learners with lower proficiency levels.

Another delimitation was age, as only adult and young adult individuals were purposefully chosen for this study. Those who were under the age of 14 were not considered, since it would have been difficult for them.

The last delimitation was that interactive fiction was tested only on a computer and windows operating system. It was not tested on such devices as tablets or smartphones. Other operating systems as Apple or Android were not considered as well.

5.9. Limitations

In this case study were used only two interactive stories. If the number of the stories, as well as differences between genre, difficulty and interactivity were more the number and nature of the challenges might be more diverse and revealing.

Another limitation was time. If the researcher had much time it would be possible to do more readings with the participants and study the challenges more in depth.

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APPENDICES

APPENDIX A

Pre-reading interview questions (before starting reading the first interactive story)

1. Where are you studying?

2. Do you like to play games?

3. What kind of games do you prefer to play?

4. Do you like to read books, stories?

5. What genre do you like to read?

6. Are you familiar with interactive fiction?

7. Did you read it before?

8. If yes, do you like it, is it interesting?

9. What genre of interactive stories did you read?

10. What level of difficulty were the stories?

11. What level of interactivity were the interactive stories?

12. What duration did those stories have?

13. For how long did you play it each time?

14. How many (approximately) stories did you read?

15. Did you have any difficulty?

16. What difficulties did you have?

17. Did the difficulties you had make you not to continue your reading?

18. Were there many unknown words in the story?

19. Approximately, how many unknown words were there in the story?

20. Which are the most frequent unknown words?

21. Did you use a vocabulary list with the specific words of Interactive fiction?

22. Did you learn any word(s), which one(s)?

23. Did you have difficulties with word choice?

24. Did you have difficulties with spelling?

25. Was the duration of the reading a challenge for you?

26. Did you have any other difficulty?

27. Did they affect your reading (how?)?

28. Did you enjoy your reading, was it interesting?

29. Was it boring to read the interactive story?

30. Were you reading the interactive stories from the beginning to the end at once or part by

part?

APPENDIX B

Post-reading interview questions (after homework reading)

1. Where did you read interactive story?

2. At what time did you read it?

3. Did you read it alone or with someone else?

4. For how long did you read it?

5. Did you have any difficulty?

6. What difficulties did you have?

7. Did the difficulties you had make you not to continue your reading?

8. Was the story difficult or easy for you?

9. Was the language difficult for you?

10. Were there many unknown words in the story?

11. Approximately, how many unknown words were there in the story?

12. Which are the most frequent unknown words?

13. Did you use a dictionary?

14. Did the list of the vocabulary we gave you help you while playing it?

15. Did you learn any word(s), which one(s)?

16. Did you have difficulties with word choice?

17. Did you have difficulties with spelling?

18. Was the duration of the story a challenge for you?

19. Did you have any other difficulty?

20. Did they affect your reading (how)?

21. Did you enjoy your reading, was it interesting?

22. Was it boring to read the interactive story?

23. Have you finished the story?

24. Did you start another story (why)?

After reading the second story

25. Was the background color disturbing you?

26. Was the listening feature disturbing you?

27. Was the less interactivity feature better?

28. Was it easier to read because it was already the second story and you had some

experience of reading it?

APPENDIX C

Post-reading interview questions (after controlled reading in AUA)

1. Did you have any difficulty?

2. What difficulties did you have?

3. Did the difficulties you had make you not to continue your reading?

4. Was the story difficult or easy for you?

5. Was the language difficult for you?

6. Were there many unknown words in the story?

7. Approximately, how many unknown words were there in the story?

8. Which are the most frequent unknown words?

9. Did you use a dictionary?

10. Did the list of the vocabulary we gave you help you while reading the story?

11. Did you learn any word(s), which one(s)?

12. Did you have difficulties with word choice?

13. Did you have difficulties with spelling?

14. Was the duration of the story a challenge for you?

15. Did you have any other difficulty?

16. Did they affect your reading (how?)?

17. Did you enjoy your reading, was it interesting?

18. Was it boring to read the interactive story?

After reading the second story

19. Was the background color disturbing you?

20. Was the listening feature disturbing you?

21. Was the less interactivity feature better?

22. Was it easier to read because it was already the second story and you had some

experience of reading it?

APPENDIX D

Post-reading interview questions (in three weeks)

1. Did you read interactive fiction during the last three weeks?

2. Why?

3. Where did you read the interactive fiction?

4. At what time did you read it?

5. Did you read it alone or with someone else?

6. For how long did you read it each time?

7. How many interactive stories did you read?

8. Did you have any difficulty?

9. What difficulties did you have?

10. Did the difficulties you had make you not to continue your reading?

11. Was the story difficult or easy for you?

12. Were there many unknown words in the story?

13. Approximately, how many unknown words were there in the story?

14. Which are the most frequent unknown words?

15. Did you use a dictionary?

16. Did the list of the vocabulary we gave you help you while playing it?

17. Did you learn any word(s), which one(s)?

18. Did you have difficulties with word choice?

19. Did you have difficulties with spelling?

20. Was the duration of the story a challenge for you?

21. Did you have any other difficulty?

22. Did they affect your reading (if yes - how)?

23. Did you enjoy your reading, was it interesting?

24. Was it boring to read the interactive story?

25. Have you finished the story?

26. Did you start another story (why)?

27. Will you continue reading interactive fiction?

28. Why?