AMERICAN UNIVERSITY OF ARMENIA
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AUA is a U.S. accredited graduate institution affiliated with the University of California

Department of English Programs

A Thesis Submitted in Partial Fulfillment of the Requirements for the Degree of Master of Arts in Teaching English as a Foreign Language (MA TEFL)

The Impact of Digital Storytelling on EFL Learners' Speaking Skills

Thesis Supervisor: Irshat Madyarov, Ph.D.

Thesis Reader: Rubina Gasparyan

Statistics Consultant: Alexan Simonyan

by:

Karine Baghdasaryan

Yerevan, Armenia

2011

American University of Armenia

We hereby approve that this thesis

by

Karine Baghdasaryan

The Impact of Digital Storytelling on EFL Learners' Speaking Skills

be accepted in partial fulfillment for the requirements of the degree of

MA TEFL

Committee on the Thesis

Supervisor: Irshat Madyarov, Ph.D.

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Reader: Rubina Gasparyan

……

Assosiate Dean of DEP: Catherine Buon, Ph.D.

……

Yerevan, Armenia

2011

Dedication

This thesis is dedicated to my family whose endless love, extended support, and unweaving faith in me have encouraged and greatly motivated me throughout my life and the period of studying and accomplishing my thesis.

Acknowledgements

I wish to express my gratitude to all the people without whose assistance and great support this thesis would not have been possible. I would like to acknowledge and express my appreciation of these people for their invaluable contributions to the accomplishment of the current thesis.

First and foremost, I wish to express my great gratitude to my thesis supervisor, Professor Irshat Madyarov for providing encouragement, thoughtful guidance, and helpful suggestions to perform well at my thesis. He guided me with great patience throughout these academic years and enlightened me on a new way of looking at language teaching. Dr. Madyarov continually and consistently conveyed a spirit of adventure in regard to research and an excitement in regard to teaching with technology.

My special thanks go to my thesis reader Rubina Gasparyan for her enthusiasm, encouragement, insightful comments, and suggestions to improve my thesis. I am very grateful to her for her inestimable support from the initial to the final stage of this research study.

I would also like to express my deep gratitude to Dr. Alexan Simonyan without whose support and great contribution to the statistical analysis of the data it would have been very difficult to complete the thesis.

My gratitude is also great to the American University of Armenia (AUA) for providing me the unique learning experience that is remarkable and indispensable. I am also very grateful to the Department of English Programs, to its faculty members and staff for believing in me and providing me opportunities to conduct my research study. I would also like to thank to all instructors of CTEFL and MATEFL programs for providing me with such unparallel learning experiences, for the theoretical and practical knowledge they gave us.

A special thank-you is reserved for my dear friend who did not hesitate to offer a hand and support during discouraging times. I want to thank her for her friendship, unfailing support, and encouragement throughout the way of pursuing my degree. I highly appreciate all those great learning experiences that we shared together while carrying on and completing our projects.

Last, but certainly not least, my sincere appreciation is extended to my family, who trusted me, constantly encouraged and inspired me. They provided me care and strength to continue when things got through. I would not have made it without their unwavering faith in my ability to successfully complete my study.

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Abstract

Situated in the field of technology and language teaching and learning, the current paper reports a mixed-method research study on the use of digital storytelling for developing EFL learners' speaking skills. The purpose of this research study, therefore, was threefold: primarily, to investigate the impact of digital storytelling on EFL learners' speaking skills, secondly, to reveal learners' attitude towards implementing this program, and thirdly, to report the students' learning behaviors when using the program.

Accordingly, this experimental study revealed the effect of a 7-week instructional treatment on speaking skill, in which speaking was addressed to be developed in terms of the integration of digital storytelling. The study employed quasi-experimental design since the participants were not chosen randomly. They were placed at the appropriate level according to the results of a proficiency test. 12 EEC learners, assigned to the experimental group and the same number to the control group participated in the study. The learners' oral performance was elicited by means of interactional tasks based on the pre and post test.

The instrumentations used for data collection constituted pre and post tests, an attitudinal questionnaire, and a semi-structured interview. Respectively, the study made use of both qualitative and quantitative data. The results of statistical analysis displayed that there was a trend towards significant gains in the learners' oral production after the treatment. It also documented the learners' positive attitude towards the program and revealed the students' learning strategies.

Chapter 1: Introduction

"*The ability to speak a language is synonymous with knowing that language since speech is the most basic means of human communication*."

(Celce-Murcia, 2001, p. 103)

The present chapter expounds on the background of the research study and states the problem by discussing the current issues which are intended to be addressed in this study. It goes on to present the objectives of the study and its significance. It also outlines and gives a concise idea of the overall organization of the paper at the end of the chapter.

1.1 Background of the Study

In this era of general globalization, English has become the dominant language in every sphere of communication. As one of the most prevalent and highly recurrent words in the research world and because of the indispensable meaning that it represents for the general globalization, "*communication*", accordingly, has grand impact on the philosophy of modern language teaching and learning (Zhuang, 2007). Speaking about the crucial importance of oral production, it is beyond the possibility not to bear in mind the basis of communication; speaking. Therefore, the nucleus of teaching and learning English today is speaking and the ability to use the language in communication.

Furthermore, people who know any foreign language are often referred to as speakers of that language reasoning that speaking includes all other language skills. Richards and Renandya (2002) state that a large percentage of the world's English language learners study it with the aim

to develop proficiency in speaking. According to Riggenback and Lazaraton (1991), second or foreign language learners are considered successful if they can communicate effectively in the target language. Thus, the vast majority of second and foreign language learners, when learning the target language, is primarily concerned with learning to speak in that language (Ur, 2006).

Speaking is theorized as a complicated "medley" of various skills and processes. It is viewed in the productive aspect as a communicative competence in which it signifies a process to conceptualize data that transpire in brain then produce it as an oral production. To this effect, Harmer (2001) asserts that the ability to speak fluently presupposes both knowledge of language features and the ability to process information and language on the spot.

For EFL learners, who study the language in a non-English speaking context, it is rather challenging to acquire proficiency in oral production. They have limited opportunities to use the language both inside the classroom and outside of it. The learners, as a rule, do not experience the appropriate occasions to transfer their knowledge from language learning situations to language using situations. However, the second and foreign language (SL and FL) researchers have come to realize that in order to fill in this gap technology is the very requisite.

Research in SL and FL has revealed a number of benefits that technology brings into language teaching and learning. The advantages of the computer environment range from providing learners opportunities to develop spoken language competence and better address their needs, to providing safe, psychologically less threatening, and highly motivating environment, and everything in between (Gong, 2002). Among the preeminent learning tools beheld to enhance learning, digital storytelling occupies an eminent and noteworthy position.

Drawing upon the philosophy, suggested by diverse sources, it becomes obvious that digital storytelling reinforces learning. It is documented to strengthen the learning process by expanding and encouraging learners' engagement levels and commitment. It captures their attention and piques their interest. As a result, learners become deeply engaged in learning content. They work collaboratively to storyboard, shoot, and edit their digital story which plays a crucial and critical role in the learning process (Banaszewski, 2005; Signes, 2008; Barret, 2006; Lowenthal, 2009).

Attributable to the exclusive nature of digital storytelling, EFL learners have the opportunity to record, listen to themselves, and watch their pronunciation, grammar, vocabulary and last, but not least, expand their fluency in the target language. Digital storytelling opens up innovative prospects and possibilities for EFL learners to be exposed to the language and to represent themselves in the way they wish (Dogan & Robin, 2008). However, being a new field in language teaching and learning, digital storytelling has not been investigated thoroughly yet and it lacks research. The little number of research conducted in various settings, cannot be considered enough to be generalized to Armenian EFL context.

The current study addresses the speaking skill to be surveyed since it is viewed as the focal point in language teaching and learning. Moreover, for EFL learners, it is believed to be the most challenging one to be mastered. Therefore, in order to enhance Armenian EFL learners' speaking skills, the research proposes to implement digital storytelling.

In this regard, the current study aims at revealing the impact of digital storytelling on Armenian EFL learners' speaking proficiency in terms of fluency, pronunciation, grammar, and vocabulary. The learners' attitude towards implementing digital storytelling is also disclosed in this study. Along with the learners' attitude the shortcomings and benefits of the program are

examined as well. The study is also directed to investigate the students' learning behaviors when using the program.

1.2 The Statement of the Problem

Considering on the background above, the research study formulates the following problems:

1. Does digital storytelling have an impact on Armenian EFL learners' speaking skills?
2. What is the learners' attitude towards implementing the program?
3. What are the students' learning behaviors when using the program?

1.3 Objectives of the Study

The aim of this study is to investigate an effective and enjoyable language learning tool that would encourage EFL learners to reinforce their learning, especially speaking. In light of the purposes of the current research and the statement of the problem, the main objectives of this study are as follows:

1. To reveal to what extent digital storytelling helps Armenian learners to improve their speaking skill.
2. To expose Armenian EFL learners' attitude towards using digital storytelling.
3. To disclose students' learning behavior when using the program.

1.4 Significance of the Study

The significance of the present study stems from the following factors. Firstly and predominantly, it attempts to explore the effect of digital storytelling on the improvement of speaking skills. In this respect, its results could be employed to evaluate the effectiveness and impact of digital storytelling on English learners' speaking proficiency in an Armenian EFL context. The findings could also be utilized by course designers or curriculum developers to

consider comprising digital storytelling in the course syllabus in order to enhance learners' performance in speaking production. In other words, the results of this study could grant valued tips on the part of digital storytelling and its implementation in an Armenian setting.

Secondly, the study might be rewarding for Armenian EFL teachers in terms of helping them to provide learners practice in speaking discourse. On the other hand, the findings could be represented to Armenian EFL learners as well, with the aim to encourage and motive them toward using digital storytelling to further develop their pronunciation, speaking fluency, and practice the use of grammar and vocabulary.

Thirdly, the findings will reveal Armenian EFL learners attitude towards using this tool, and, therefore, may lead to a great change in learners' perception and attitude towards learning English in general and speaking in particular. The results may serve also to change EFL learners' attitude towards computer assisted language learning.

Therefore, the benefits of the study can be summarized and represented as follows:

1. Theoretical benefits
    a. The results may be used as an input in the teaching and learning process of speaking skills
    b. The findings of this study may serve as reinforcement to motive others to conduct further research in teaching and learning with technologies
2. Practical benefits
    a. The results may motive course designers to integrate it into the course curriculum
    b. The findings may motive Armenian EFL learners, as well as teachers, to change their beliefs and attitude towards mastering speaking skills

c. The findings may be used by Armenian EFL teachers to provide better technique or method for teaching speaking

1.5 Research Paper Outline

The organization of the present research paper is outlined and sketched as follows:

Chapter 1 is devoted to the introduction of the current research study and comprises the background of the study, problem statement, its objectives, and significance. It also provides the outline of the research paper organization at the end.

Chapter 2 introduces the review of the literature on theoretical rationale and historical background on both speaking and digital storytelling. Then, it goes on exploring the teaching of speaking and inspecting the ways of teaching along with the integration of technology. Finally, it peruses the current research on digital storytelling and speaking.

Chapter 3 presents the methodology of the research study. It covers type of the research and embraces a report on the research procedures, setting of the study, participants of the study, methods of data collection, and, finally, it discusses data analysis instruments.

Chapter 4 documents the results of both qualitative and quantitative data analysis collected during the study. It presents the statistical analysis of the data and its results in accordance with the questions posed in the study.

Chapter 5 concludes the present paper proving insights into the findings of the study. It presents its limitations and delimitations, and pedagogical implications of the study. The chapter also provides recommendations for further research.

Chapter 2: Review of Related Literature

In this chapter, relevant literature on theoretical framework and historical background on speaking skill, novel ways in teaching speaking with technology, as well as issues on digital storytelling as computer assisted language learning tool along with its theoretical rationale and historical background are explored. The historical perspectives on these phenomena are presented, and their natures are defined and viewed according to viewpoints of various authors and in accordance with the findings of empirical studies. To this effect, the discussion leads to the formulation of research questions and research hypothesis.

2. 1 Theoretical Framework of Speaking Skill

Speaking, regarded as an active and productive skill, has occupied and keeps on occupying a prominent position in the interests of researchers in the second and foreign language teaching and learning domain. Among the major language skills, speaking is often recognized of crucial importance to function in an English context. Therefore, it is deemed to be critical and pivotal in learning or teaching a foreign language. However, in comparison to other language skills, speaking represents many challenges for EFL learners; it is rather arduous for them to master the ability to make their speech production clear and themselves understood in an EFL milieu.

Speaking is rather complicated in nature. It involves a series of processes, from the intention to speak to articulation of overt speech (Levelt, 1989). Celce-Murcia and Olshtain (2000) consider speaking as one of the most difficult skills to acquire for the very reason that it requires command of both listening comprehension and speech production subskills such as vocabulary, pronunciation, choice of grammatical pattern, and so forth.

Brown (2001) compartmentalizes several characteristic features that make the spoken language challenging and complex. These features are classified and known as clustering, redundancy, reduced forms, performance variables, colloquial language, rate of delivery, stress, rhythm, and intonation, and, last but not least, interaction. According to Nunan (2003) and Bailey (2005), the difficulty of speaking is embodied in two phenomena: first, unlike other language skills, it takes place in *real time*, in unpredictable and unplanned situations, and second, when speaking, the message originator has limited opportunities to plan, edit, and revise output.

Plowing through language teaching and learning literature, theoretical rationale for speaking skill turns out to be rather abundant and multidimensional; i.e. speaking is defined from various perspectives in various ways. Levelt (1989) theorizes speaking as a fairly complex cognitive, linguistic, and motor skill. According to Nunan (2003, p. 48), "*speaking is the productive aural/oral skill. It consists of producing systematic verbal utterances to convey meaning*".

The nature of speaking is also elucidated as an interactive process of constructing meaning which involves producing, receiving, and processing information (Brown, 1994; Burns & Joyce, 1997). It requires the combination of linguistic and sociocultural competence, i.e., learners should not only know how to produce certain points of language regarding grammar, pronunciation, and vocabulary, but also understand when, why, and in what ways to produce language (Burns & Joyce, 1997; Carter and McCarty, 1995; Cohen, 1996, Celce-Murcia & Olshtain, 2000).

Bygate (1987) views speaking as comprising two components: production and interaction skills. Oral language allows limited time to modify the oral production and this refers to the use

of productive skills. Meanwhile, interaction skills involve making decisions about communication and using knowledge and motor-perception skills to achieve conversation, e.g. what to say, how to say it, and whether develop it. Accordingly, it depends on two kinds of skills: routines (storytelling, descriptions, etc) and negotiation skills.

According to Chaney (1998), speaking is "*the process of building and sharing meaning through the use of verbal and non-verbal symbols, in a variety of contexts."* It is often open-ended, spontaneous, and usually volatile. Levelt (1989) interprets speech production as combination of three essential stages: conceptualization of the message, formulation of the language representation, and articulation of the message.

Brown and Yule (1983) begin their discussion on the nature of speaking by drawing a distinction between spoken and written language. Subsequently, they go on discriminating between two essential spoken language functions: the transactional function, which is concerned with the transfer of information, and the interactional function, which deals with the notion that the primarily purpose of speech is the maintenance of social relationship. They also mention that speaking is composed of short, fragmentary utterances in a range of pronunciations.

Building on Bailey's (2005) stance, speaking is both the product and the process of second language acquisition. The speaking ability is adequately a skill to communicate a speech articulation or to speak for expressing an idea and a message appropriately in an appropriate context (Tarigan, 1981 cited in Kusmaryati, 2009).

In line with another perspective, speaking is surveyed as a complex set of interacting levels of language, including phonology, morphology, syntax, the lexicon, and discourse. In other words, the speaking process involves a number of linguistic elements that are often referred

to in the figure of a pyramid (Nunan, 2003; Bailey, 2002). These elements are distinguished as phoneme, morpheme, word, phrase, clause, utterance, and text. The speaking process is also analyzed as the incorporation of five components: pronunciation which includes the segmental features - vowels and consonants and the stress and intonation pattern, grammar, vocabulary, fluency, and comprehension (Lado, as cited in Kusmaryati, 2009).

Harmer (2002) states that in order to speak fluently and accurately learners should have knowledge on the language features to which he refers as language elements. These elements are of upmost importance for effective speaking. They include connected speech, expressive devices, lexis and grammar, and negotiation language.

Conveying the core of such an intricate mechanism as speaking, it is indispensable to remark on Brown's (2001) taxonomy of six basic types of speaking:

1. **Imitative** that is the imitation of some particular element of language form such as a word, a phrase, or possibly a sentience.
2. **Intensive** that is employed to practice some aspects of language and demonstrate competence in a narrow band of grammatical, phrasal, lexical, or phonological relationships.
3. **Responsive** that includes short replies questions, comments, and the like. It is usually a spoken prompt which is in order to preserve authenticity.
4. **Transactional (dialogue)** which is used to convey or exchange specific information. A good example of this type is conversation.
5. **Interpersonal (dialogue)** which is carried out for maintaining social relationships rather than for the transmission of facts and other kinds of information.

6. **Extensive (monologue)** which includes speeches, oral presentations, and storytelling.

By communicating orally in English, learners usually experience modified interaction; the interaction that either linguistically or conversationally is altered to facilitate comprehension of the message (Doughty & Pica, as cited in Bailey, 2005). Such kinds of modifications occur through repetition of the spoken message as well as through three types of conversational moves: clarification requests, confirmation checks, and comprehension checks. Clarification request befalls when one interlocutor asks for clarification because of not entirely comprehending the meaning. Confirmation checks refer to the statements when the listener believes that he has understood the message, but would like to make sure. Finally, comprehension checks occur when the speaker wants to be sure that he has been understood (Bailey, 2005).

According to the descriptions and viewpoints on speaking skill provided by various linguists, speaking can be synthesized as not only a product but also rather a complicated and multidimensional process which includes expressing ideas, thoughts, opinions, and communicating needs, emotions and feelings to others by using words or sounds of articulation in order to inform, interact, negotiate, etc. Nevertheless, speaking is a simple activity of delivering one's thoughts to others and the ability of communicating with each other in any situation.

In this study, speaking is essentially viewed as the ability to use the target language fluently and appropriately in certain situations making a full use of appropriate vocabulary, grammar, and pronunciation. Thus, foreign language learners, when communicating in the target language, are expected to be able to use their proficiency to the fullest and make themselves

understood. In other words, they should avoid using the faulty pronunciation, grammar, or vocabulary, and be fluent when communicating in the target language.

Defining this construct operationally, it is worth mentioning that learners' ability of speaking is assessed according to an analytic rubric. The learners are scores in terms of their abilities in fluency, appropriate use of vocabulary and grammar, pronunciation, and comprehensibility (see Appendix A).

2.2 Historical Background of Teaching Speaking

Thoroughly reviewing the modern history of language teaching methods, changes in them are observed to have reflected recognition of changes in proficiency that learners need to acquire in learning a foreign language, such as moving towards oral proficiency rather than reading comprehension or writing in the target language. In the initial stages of the development of language teaching methodology, speaking occupied a peculiar position in second or foreign language teaching. Its crucial importance was highlighted only in the last few decades, and speaking has emerged as a detached branch of teaching, learning, and testing (Bygate, 2002).

Keeping track of language teaching history, its roots appear to go back to the approach known as the Grammar Translation Method. Under this method, the goal of foreign language study is to learn a language in order to read the literature in that language. Accordingly, the purpose to learn a language in the grammar translation method is focused on reading and writing in the target language, and the ability to speak a foreign language is irrelevant and extraneous. Translation from one language into another plays a central role here. The main emphasis is on accuracy, and the language of instruction is learners' native language (Richards & Rodgers, 2001; Larsen-Freeman, 2000; Brown, 2001; Bailey. 2005).

The Grammar Translation Method was then followed by the era of the Direct Method which shed light on the importance of oral communication. Therefore, the purpose of instruction in the direct method is to learn how to use a foreign language to communicate. According to it, learners need to associate meaning and the target language directly, focusing on form rather than meaning (Richards & Rodgers, 2001; Larsen-Freeman, 2000; Brown, 2001).

In the 1950s, the direct method was superseded by an innovative one that became wide-spread and well-known as the Audiolingual Method. Although the primacy of speech is again central, the audiolingual method is firmly grounded in linguistic and psychological theory. It has a theoretical base in behaviorism, according to which learning a language is a matter of habit formation, imitation, and memorization. In the audiolingual method, the belief is that by intense repetition and practice, good habits are formulated to the extent that they are fluent and automatic, and learners would not have to stop and think how to form an utterance before speaking. Consequently, teachers address learners' spoken errors immediately in hope of preventing them forming bad habits (Richards & Rodgers, 2001; Larsen-Freeman, 2000; Brown, 2001; Bailey, 2005; Gass & Selinker; 2008).

Being popular in language teaching for moderately a long period of time, the value of the audiolingual method was later put under a big question. In the context of EFL learning, the ability to convey meaning in natural communication became recognized of crucial importance, and the audiolingual method was criticized for not providing learners with the spontaneous use of a foreign language. In order to accomplish this and communicate naturally and effectively, achieving communicate competence became central in a foreign language teaching. Hence, paying heed to the importance of both the communication of ideas and the sharing of information in the target language, and to a great need to develop communicative competence, the

Communicative Language Teaching emerged and was employed. CLT is based on the theory of a language as communication, and its main goal is to engage learners in communication, involving processes such as information sharing, negotiation of meaning, and interaction (Richards & Rodgers, 2001; Larsen-Freeman, 2000; Brown, 2001).

CLT is elucidated by the philosophy of teaching a foreign language through communicative approach with the major focus on speaking and listening skills, on writing for specific communicative purposes, and on authentic reading (Brown, 2001). The other purpose of the communicative language teaching, proffered by Krashen (1982), is to involve learners into meaningful communication with the aim to create more comprehensible input. On the other hand, Swain (1985) originated and proposed the "comprehensible output hypothesis" stating that in order to learn to speak learners have actually to speak. She claims that through the process of achieving successful negotiation of meaning by producing comprehensible output, learners recognize the limits of their existing knowledge and, therefore, focus their attention on not-yet acquired knowledge.

Harmer (2001), while explicating the essence of CLT, notes that it is closely related to the idea that "*Language learning will take care of itself*" (p. 70). He makes the important point concerning CLT stating that learners need to be exposed to the target language and given opportunities to use the language in order to develop their knowledge and skills. Thus, among the main characteristics of CLT approach is that it is developed around the individual learner, taking his needs and objectives as starting points in teaching and learning a second or a foreign language.

Abridging these theories, it becomes crystal clear that being able to speak English and successfully achieve communication in real-life situations requires more than just knowing its grammatical and semantic rules. Shumin (as cited in Widiati & Cahyono, 2006, p. 204) also notes the important issue that "*effective oral communication requires the ability to use the language appropriately in social interactions*." This refers to the notion of communicative competence which lies in the basis of CLT. Accordingly, foreign language learners need to acquire not only linguistic but also pragmatic knowledge of the language which is the knowledge acquired through exposure and use (Hedgcock as cited in Chen, 2005).

The current literature advocates loads of theories on communicative competence. According to Hymes (1972), it is composed of the interaction of grammatical, psychological, sociolinguistic, and probabilistic components. Later on Canale and Swain (1980) and Shumin (as cited in Widiati & Cahyono, 2006) adapted Hymes' theory and considered communicative competence as the interaction of grammatical competence, discourse competence, sociolinguistic competence, and strategic competence.

These components of communicative competence or in other words abilities to create a coherent and meaningful conversation have several practical implementations for teaching speaking and have been explained by various linguists. Grammatical or linguistic competence refers to lexical, morphological, syntactic, and phonological features of language; i.e. it relates to the knowledge of spelling, pronunciation, and grammatical structures. Discourse competence deals both with discourse features such as cohesion (how sentences are linked together through reference, repetition, etc.) and coherence (how texts are constructed), and with the ability to understand individual message. Discourse competence also refers to bottom-up and top-down processing. Sociolinguistic or pragmatic competence (also referred to as illocutionary

competence) is concerned with the social rules of language use which include the expression and understanding of various social contexts where communication takes place. Strategic competence entails a repertoire of compensatory strategies that are employed for a successful communication and help with a wide range of communication difficulties (Celce-Murcia, 2001; Bailey, 2005, Richards, 2006; Ohno, 2006, Canale and Swain, 1980; Shumin, as cited in Widiati & Cahyono, 2006).

Savignon (as cited in Bailey, 2005) views communicative competence as the learner's ability to interact with other speakers, and to make meaning rather than to perform on discrete-point tests of grammatical knowledge.

Brown's (2001) standpoint on it is the following:

> *Communicative competence is the goal of a language classroom, and instruction needs to point toward all its components: organizational, pragmatic, strategic, and psychomotor. Communicative goals are best achieved by giving due attention to a language use and not just usage, to fluency and not just accuracy, to authentic language and contexts, and to students' eventual need to apply classroom learning to previously unrehearsed contexts in the real world* (p. 69).

According to Bachman (as cited in Vilimec, 2006), communicative competence is communicative language ability which comprises two basic features; firstly, knowledge and competence in the language, and, secondly, the capacity of implementing or using the competence. He notes that communicative language ability includes three components: language competence, strategic competence, and psychological mechanism.

Brown (2001) states that classroom goals of CLT should be focused on all the components of communicative competence and should not be restricted to grammatical or linguistic competence. Learners should be engaged in the pragmatic, authentic, and functional use of language for meaningful purposes. Hence, CLT provides learners with opportunities to use the language productively and receptively in unrehearsed context.

Alluding to these issues, all four components of competence have their imperative influence on learners' speaking proficiency. The combination and employment of the components of communicative competence help prepare learners for effective and appropriate use of the target language. Correspondingly, good speakers should employ the rules and norms governing the appropriate timing and realization of speech acts (Shumin, 2002).

2.3 Current Issues in Teaching Speaking

Being a highly demanding SL or FL cognitive skill and having rather a complex nature, speaking has been studied and explored by many researchers. Teaching speaking skill is far from being an easy job. It is challenging not only for teachers but also for learners. In the scenario of teaching speech production, scores of empirical studies concentrate on the upmost important issues of speaking, such as fluency, pronunciation, appropriate use of vocabulary and grammar since these are recognized as vital variables in the development and improvement of speaking competence.

As it has already been explored overhead, teaching merely the linguistic background of the target language is not enough and cannot successfully engage EFL learners into real-life communication in the target culture. They also need to acquire the capacity to use the language in different sociocultural contexts (Bachman, 1990; Hymes, 1972; Kasper, as cited in Chen,

2005). In accordance with this, current focus on teaching speaking is on developing learners' communicative competence.

A number of viewpoints on principles for teaching speaking are discussed by various linguists in the last few decades. Nunan (2003) categorizes these principles along these lines:

1. *Be aware of the differences between SL and FL learning contexts*
2. *Give learners practice with both fluency and accuracy*
3. *Provide opportunities for students to talk by using group work or pair work, and limiting teacher talk*
4. *Plan speaking tasks that involve negotiation for meaning*
5. *Design classroom activities that involve guidance and practice I both traditional and interactional speaking* (p. 54).

Celce-Murcia (2001) indicates that learners need extensive authentic practice in the classroom, such as taking part in discussions, interacting with peers and professors, as well as asking and answering questions. Moreover, language learners should be encouraged to become flexible users of their knowledge, having the communicative goals in mind (Celce-Murcia & Olshtain, 2000).

Making allowances for current issues in teaching oral communication, Brown (2001) provides insights into micro skills of speaking with the aim to provide some outlooks to the more practical consideration of speaking skill:

- *"Produce chunks of language of different length*
- *Orally produce differences among the English phonemes and allophonic variants*

- *Produce English stress patterns, words in stress and unstressed positions, rhythmic structure, and intonational contours*
- *Produce reduced forms of words and phrases*
- *Use an adequate number of lexical units (words) in order to accomplish pragmatic purposes*
- *Produce fluent speech at different rates of delivery*
- *Monitor your own oral production and use various strategic-pause, fillers, self-corrections, backtracking – to enhance the clarity of the message*
- *Use grammatical word classes (nouns, verbs, etc), systems (e.g., tense, agreement, and pluralization), word order, patterns, rules, and elliptical forms*
- *Produce speech in natural constituents – in appropriate phrases, pause groups, breath groups, and sentences*
- *Express a particular meaning in different grammatical forms*
- *Use cohesive devices in spoken discourse*
- *Accomplish appropriately communicative functions according to situations, participants, and goals*
- *Use appropriate register, implicature, pragmatic conventions, and other sociolinguistic features in face-to-face conversations*
- *Covey links and connections between events and communicative such relations as main idea, supporting idea, new information, given information, generalization, and exemplification*
- *Use facial features, kinesics, body language, and other nonverbal cues along with verbal language to convey meanings*

- *Develop and use a battery of speaking strategies, such as emphasizing key words, rephrasing, providing a context for interpreting the meaning of words, appealing for help, and accurately assessing how well your interlocutor is understanding you"* (p. 272)

To provide a clear view of the activities designed for the teaching of speaking skill, they can be segregated into two realms: classroom speaking activities oriented to speaking for real communication and activities operated merely for speaking practice, such as repeating certain patterns (Widiati & Cahyono, 2006).

The review of literature on teaching speaking, consistent with the existent research, exposes that a great number of research studies, as well as various authors, propound a wide range of techniques to be implemented in teaching speaking such as role-play, simulation, classroom discussions, storytelling, communication games, and so forth (Harmer, 2001; Nunan, 2003; Celce-Murcia, 2001; Celce-Murcia & Olshtain, 2000; Leon & Cely, 2010; Kusmaryati, 2009).

2.3.1 Teaching Speaking in an EFL vs. ESL Context

Taking notice of the empirical issues discussed to this point, in order to meet the growing needs of EFL and ESL society, currently the communicative language teaching is the very approach that focuses on involving learners in authentic and interactive learning tasks in order to promote comprehensive input and appropriate language output. However, unlike ESL learners, who are exposed to the target language in everyday life and use it outside the classroom, EFL learners do not have an adequate access to the target language in everyday life, and after they leave the classroom they normally speak their native language. Therefore, the only place that

they can put the target knowledge in work is the classroom where, on the other hand, they have limited time and chances to speak.

Hansen (as cited in Chen, 2005) notes that in an EFL classroom the interaction mode is linier, i.e. when a learner is speaking, the others ought to be silent until their interlocutor completes his speech. Besides, since the ability to speak the English language is a very complex task taking into account the nature of what is involved in speaking, not all of learners in an EFL classroom have the courage to speak. Moreover, factors of learners' different personalities, learning and response pace, motivation, and language proficiency can lead to individual inequality to speak up in the classroom. There are usually learners who are shy, slow, lack self confidence, or prior knowledge on topics, or are afraid of making errors and, as a rule, they prefer to keep silence in class (Tutyandari, 2005; Celce-Murcia, 2001). Padmadewi (1998), based on her research findings, claims that EFL learners feel anxious when attending a speaking class or when carrying out a speaking task due to the pressure since speaking tasks require them to present individually and spontaneously within limited time.

Therefore, although the CLT approach is widely adopted and espoused now, due to many factors as touched upon above, it is still challenging for teachers teaching in homogeneous classes to exploit the approach and maximize the learning in an EFL context (Celca-Murcia, 2000; Campbell, 2004). They still encounter difficulties to develop learners' communicative competence. In other words, insufficient access to the target language inside and outside the classroom creates an obstacle to foster EFL learners' language proficiency.

This lack of opportunities to speak the target language adequately in an EFL context brought to the advent of technology in teaching speaking skills. It is proposed that technology

and the teaching of speaking can be incorporated and utilized both to compensate the deficiency of interaction both inside and outside an EFL classroom, and to enhance learners' communicative competence to a certain extent (Chen, 2005).

2.3.2 Perspectives on Teaching Speaking with Technology

The assertions and empirical evidence made in the research world of technology and language teaching and learning meet to such point that they all claim that the use of technology is highly encouraged in SL and FL teaching. Recent research on Computer-Assisted language learning (CALL) puts forward the belief that the integration of technologies into foreign language teaching and learning can provide EFL learners more authentic input and more opportunities to practice the target language. In SL or FL classrooms, the CALL creates an ample environment which promotes situations that stimulate interest, allows dialogue, monologue, and communication, enhances reactivity, fosters a sense of personal worth, facilitates collaborative work, and most importantly permits rich learning experiences for all learners and strengthens communication skills (Pennington, 1995; Cameron, 1999; Inoue, 1999).

Recapping the estimations of various researchers, it becomes apparent that the integration of technologies in education has arose new and powerful ways in the philosophy of language learning/teaching. It aims at providing both teachers and learners with new and fascinating activities to substitute and complement the traditional ones. Providing learners with opportunities to involve technologies in their learning process highly motivates and inspires them. Consequently, they become engaged and interested in their own learning.

Technologies in teaching support a cognitive approach to language learning and provide learners supreme opportunity to interact within meaning-rich contexts via which they build and

achieve competence in the second or foreign language (Warschauer & Meskill, 2000). They afford language learners a chance to be engaged in self-directed actions, give them opportunities to self-paced interactions, as well as privacy (Egan, 1999). Moreover, they provide specific ways of self-evaluation and self-analysis which improves learners' spoken delivery.

Kasapoğlu-Akyol (2010) asserts that using technology in language classrooms makes lessons more effective. The integration of sound, voice interaction, text, video, and animation makes it possible to create interactive learning environment that promises to enhance the classroom model of language learning significantly (Ehsani & Knodt, 1998). Therefore, teaching speaking with the incorporation of technology is credited to engage EFL learners in authentic social interactions and increase the exposure to the target language both inside and outside an EFL classroom (Nunan, 2003).

The technological tools originated for developing and enhancing speaking skills are innumerable and diverse varying between avatars, animations, podcasts, digital tools, and so forth. Digital storytelling has the most common features to be mentioned among the best and potent learning tools, as it contributes to the enrichment and improvement of language learning and teaching. If computer technology is the "great equalizer" as Palloff and Pratt (1999) designate it to be, then digital storytelling is the very tool that provides learners with opportunities to speak out even when they are marginalized by language (Bernajean, 2006). It enables learners to think critically and to theorize creativity, apply their multiliteracy, reflect on their creative process, etc. (Bull & Kajder, 2004, Benmayor, 2008).

2.4 Historical Background of Digital Storytelling

Digital storytelling emerged in the 1990s as a widespread and powerful storytelling tool. Many diverse sources state that the roots of digital storytelling go back to the work of Joe Lambert and Dana Atchley at the Center for Digital Storytelling (CDS) at Berkley in 1993 (Bull & Kajder, 2004; Robin, 2008; Miller, 2009). CDS is famous for developing and propagating the "Seven Elements of Effective Digital Stories." Initially being used for business purposes as a unique way to communicate with the consumers, later it captured the hearts and imaginations of educators and became a widely used educational tool. It has been and is continuing to be widely used in language teaching/learning due to a variety of factors such as the ease and speed with which learners can create their digital stories (Robin, 2008; Behmer, 2005).

2.5 Theoretical Rationale of Digital Storytelling

Exploring and synthesizing the definitions of digital storytelling provided by various authors, it can be viewed as a process of creating a short movie that combines a script with different multimedia components, such as images, videos, music and narration, and an author's own voice (Robin, 2008; Bull & Kadjer, 2004; Sadik, 2008; Signes, 2008, Porter, 2004).

Universal design for learning (UDL, 2009), an educational framework which encourages teachers to provide learners with multiple opportunities for learning new content and demonstrate learning outcomes, views digital storytelling as an authentic pedagogical approach for diverse learners (Rose et al., 2005; Roby, 2010).

Meanwhile, the Digital Storytelling Association defines digital storytelling as modern appearance of the traditional art of storytelling; a digital media employed to create stories to tell, to share, and to preserve (DSA, as cited in Behmer, 2005).

In close line with the philosophy supported by the CDS, digital storytelling is termed as a stupendous potential technology tool, allowing learners to tell stories in a new, fantastic, and powerful way. Due to its easy production and the possibility of uploading, digital storytelling is featured as a user-friendly tool that can serve for the purposes of exchanging learners' ideas and viewpoints on the same topic in regard to no boarders, distance, time, and accessibility (Lowenthal, 2009; Signes, 2008; Dogan & Robin, 2008).

Axelson (as cited in Williams et al., 2006) terms digital storytelling as "*the latest treasure in media and interactive online content*"(p. 38). Digital storytelling has a flexible and dynamic nature, which encapsulates aural, visual, and sensory elements. The basic process of creating a digital story involves the following steps: write a few-minute story, collect images for the story, import them into the computer if they are not, record the voice, and finally align images with script (Meadows, 2003; Davidson & Porter, 2005). In other words, the process of digital storytelling starts like the traditional writing process including brainstorming or topic selection and drafting. After it learners are to construct a storyboard to visualize the story. Then they proceed to the production stage using Windows Movie Maker or iMovie (Bull & Kajder, 2004; Miller, 2009; Hughes & Robertson, 2010).

Educational digital stories are usually expected to range from two to ten minutes in length. The topics can constitute personal tales, the recounting of historical events, exploring life in one's community or the life in other corners of the world, and so forth (Lowenthal, 2009; Meadows, 2003; Jakes, 2007). Therefore, educational digital stories can have personal and instructional dimensions. Digital stories can include learners' personal viewpoint apart from the instructional content, i.e. in creating their educational stories learners are not expected to

reproduce merely a summary report or a collection of previously written facts, but to include their personal dimensions.

In other words, digital story is expected to reflect learners' way of perceiving, interpreting, and transmitting the knowledge they acquire (Hughes & Robertson, 2010; Sadik, 2008). Porter (2004), in this sense, defines digital storytelling as the art of designing information. Thus, digital stories provide learners with opportunities not only to express some certain facts, but also make themselves heard.

Lambert (2002) describes seven important elements needed for educational digital storytelling and three elements are proposed and added to the basic seven ones by Robin (2008). These elements include the overall purpose of the story, the narrator's viewpoint, a dramatic question, a content choice, the clarity of the voice, the pacing of the narrative, a meaningful soundtrack, high quality of images, economy of the story detail, and good grammar and language use. Signes (2008) mentions that among these elements the last one is of upmost importance in the field of EFL, since among the main purposes of making learners create a digital story is to provide them with the means to improve their command of the language.

2.6 Research on Digital Storytelling as a Computer Assisted Language Learning Tool

Digital storytelling as a computer assisted language learning tool has been exhaustively scrutinized with the main focus to investigate its influence and power in education. The great majority of the current research, however, explores the essence of digital storytelling as a learning tool in general, with comparatively slight focus on language teaching and learning in particular.

In keeping up with the findings of the current research, digital storytelling is marked to provide learners with remarkable opportunities to utilize, achieve, and develop skills which the 21st century learners are expected and encouraged to have, such as information literacy, creativity, risk taking, and last, but not least, the utilization of technology for communicative purposes. Learners' active participation in the process of digital storytelling and creative work provide them with a strong foundation to develop all the skills what many educators label *21st Century Literacy, Digital Literacy, or 21st Century Skills* (Robin, 2008; Porter, 2004; Jakes, 2007).

Barrett (2006), Robin (2006), and Banazewski (2005) expound on another set of pivotal skills which are brought together during the process of creating a digital story. Amid these skills they point out research and writing, speaking, organization, technology, presentation, interpretation, and problem-solving skills, which develop digital literacy, global literacy, technology literacy, visual literacy, and information literacy. Barrett (2006), in his turn, states that digital storytelling facilitates the convergence of four learner-centered strategies: learner engagement, reflection for deep learning, project-based learning, and integration of technology into the instruction.

According to the data collected by Hull and Katz (2003), this tool is not only motivating but also productive for learners. It assists them to disclose themselves in a novel way and provides rich opportunities for self-reflection. Beyond building confidence as authors, the integration of music and personal narration gives learners an opportunity to control how they present themselves to the world. Furthermore, digital storytelling requires learners to summarize and synthesize information, tap into their creativity, conduct research, and utilize critical thinking (Hull & Katz, 2003; Ohler, 2008; Dogan & Robin, 2008).

Digital storytelling, in addition to all these, is advocated to help language learners to further develop their language skills. The benefits of using digital storytelling for EFL teaching/learning purposes are diverse and numerous, ranging from increasing learners' motivation and creativity to allowing for personalization of the learning experience (Bull & Kajder, 2004; Barret, 2006; Robin, 2008).

Another research study was conducted by Sadik (2008) on digital storytelling as an integrated approach for engaged student learning. The results of the study revealed that digital storytelling executed by Egyptian teachers supported learners' understanding of specific content in an academic course.

Roby (2010) investigated that when teachers actively include digital storytelling in their curriculum they facilitate learners' learning and inspire them. They provide learners with a deeply meaningful learning experience if carefully planned and prepared. Thus, learners become highly motivated by the personal nature of digital storytelling.

As stated by another research study, teachers report improved self-esteem after a learner completes a digital project (Banaszewski, 2005; Dogan & Robin, 2008). Digital storytelling encourages learners to read for depth and deep understanding, and enhances the competence with technology as they refine their problem-solving skills (Behmer, 2005; Dogan & Robin, 2009; Signes, 2008; Kennedy, 2010).

According to Robin (2008), Coutinho (2009), Roby (2010), the adequacy of it as an educational tool can be synthesized as follows:

1. **Innovation in teaching materials** – Digital storytelling combines new technologies with traditional methods of teaching/learning and allows both teachers and learners to innovate in the treatment and presentation of teaching/learning material.
2. **Motivation** – Digital storytelling can help increase learners' motivation as they view it as a brand new activity, with a fascinating final product.
3. **Creativity** - The possibilities suggested by the multimedia tools, such as Photostory 3, Windows Movie Maker, etc, that are used in digital storytelling, invites learners to be more creative, thus, it can introduce and encourage different ways of teaching/learning.
4. **A new view on traditional ways of language learning/teaching** – digital storytelling encourages learners to use diverse stylistic devises, different techniques of narration and dramatization, etc, and provides new possibilities that were not possible before the advent of digital media in education.

In order to deduce the effectiveness and potentials of digital storytelling for teaching and learning purposes, the results of the study were summarized into the set of ten categories and organized around two types of arguments, i.e. advantages and disadvantages of using digital storytelling. The eight categories, emerged from the data, stand for advantages, and support the importance of digital storytelling in language learning, and only two of them stand for disadvantages. The eight main advantages include the following categories: digital storytelling provides new methodologies in the classroom, new competence, more interest in the learning process, more motivation, more creativity, enhances the integration of technologies into the curriculum, images facilitate understanding of complex contents, and it promotes communication. Turning to disadvantages two categories can be mentioned: the need for more

teacher education and training and the need of more time since it takes learners time to create digital stories (Coutinho, 2009; Robin, 2008, Hughes & Robertson, 2010).

Therefore, in light of existing research and their findings, it becomes discernible that a number of advantages, rather than disadvantages of implementing digital storytelling in teaching and learning can be suggested such as providing more variation than traditional methods in current practice, personalizing learning experience, making explanations and the practice of topics more compelling, creating real life situations in an easy way, and improving the involvement of students in the process of learning (Sadik, 2008; Signes, 2008; Barret, 2006).

2.7 The Potential Pedagogical Benefits of Digital Storytelling for Speaking

To provide a clearer picture of digital storytelling as a pedagogically powerful tool aiming to develop speaking skill, first its core, i.e. storytelling, should be examined. With some noticeable evidence in language teaching literature, storytelling captures immediate attention as an ancient technique that has always had its special place in language arts classrooms. Storytelling is most frequently designated as the original form of teaching speaking: a rather simple but powerful method used to improve speaking skills.

Storytelling requires language learners to combine various types of their knowledge together with their performance skills and communicative strategies (Celce-Murcia & Olshtain, 2000). Moreover, it is used not only for communication purposes but also for teaching literacy skills, cooperative learning skills, critical thinking, and for building knowledge of different contexts (Behmer, 2005; Robin, 2008).

More fundamentally, storytelling is a unique human experience that enables learners to express themselves through the language of words. A number of articles articulate that bringing storytelling and technology together can result in a variety of benefits, such as learners' better achievement, cognitive growth, and motivation produced through this combination. It is also reported to support learning by enhancing problem solving skills and improving not just speaking but also listening (Hofer & Swan, 2005).

Due to the nature of the activity, digital storytelling provides means for practice in spoken language, and allows language learners to play with words and become more confident in speaking in the target language. While creating a digital story learners are expected to write a script, to read it out loudly which provides them with a good chance to review thoroughly both spoken and written discourse features (Signes, 2008; Kennedy, 2010). They can be recorded or can record themselves as many times as they wish and watch themselves which enables them to improve their oral skills to a great extent (Gong, 2002; Celce-Murcia & Olshtain, 2000). Learners can check their pronunciation, spelling, and grammar, and those who are afraid of embarrassingly making errors in class are more willing to speak when being able to use technologies to record themselves (Pennington, 2004). Therefore, digital storytelling has a great potential to help learners learn a language due to the interplay between writing, speaking, and listening (Ohler, 2008; Hofer & Swan, 2005).

Digital storytelling seeks to prepare language learners to effectively communicate in a real world that demands facility with representing the information in dynamic ways. It is a powerful way to provide learners with such a learning environment where they work collaboratively and think critically to apply communication skills. It allows them to cross the

boundary from learner to contributor, and their works become meaningful and authentic (Behmer 2005; Miller, 2009; Hofer & Swan, 2005).

Being relatively an innovative approach to teaching speaking, digital storytelling is devoid of rich research backbone. Nevertheless, there is limited number of research conducted in diverse EFL contexts with the intention of investigating the impact of digital storytelling on improving speaking skills.

Bull and Kajer (2004) state that script writing, editing, and oral presentation are excellent ways to assist English language learners to practice their written and oral skills in the target language. Back in 2006, Nelson conducted case study research of post-secondary students, the results of which revealed that digital storytelling has great potential for increasing the volume and the quality of English language learners' authorial voice. It affords them the freedom to communicate and negotiate meanings that are not usually tangible or concrete.

Another case study on the teaching of speaking by implementing digital storytelling was conducted in an Indonesian EFL setting. Along with its results, digital storytelling can be safely reported to help EFL learners to learn and improve speaking. It is also documented that all learners participated actively and supportively in speaking activities. In this regard, observations indicated that narrating process allowed learners to speak a whole heap. Their repetition in the pronunciation of words until obtaining the correct form for the purpose of telling stories contributed positively to the development of their pronunciation. In addition, the learners assessed their own fluency by listening to their recorded voices in digital storytelling. The results also disclosed that digital storytelling had trained the learners to maintain effective communication and creativity.

Tsou et al. (2006), according to the results of their research, assert that digital storytelling is imbued with a high potential to improve and promote language proficiency in speaking along with other skills, such as writing, reading, and listening.

Sadik's (2008) mixed method study conducted in an Egyptian high school explored that the consumption of digital storytelling encourages oral expression due to personal engagement with a topic and, therefore, improves oral communicative skills.

Ramirez-Verdugo and Belmonte's (2007) quasi-experimental study investigated the effectiveness of digital storytelling on the understanding of spoken English by Spanish elementary ESL learners. They claim that visual images in the digital story and learners' interaction with the application helped them focus on the oral production of the language.

Recapitulating the findings and claims of current research studies carried out in various EFL and ESL settings, digital storytelling can be stated to be an effective digital tool to enhance speaking skill. It puts in language learners' hands a potent and powerful tool to overcome obstacles that they encounter in developing speaking skill in an EFL context.

2.8 Statement of Purpose

This study considers speaking a pivotal, most demanding and challenging skill and attempts to investigate the impact of digital storytelling on the improvement of this construct by encouraging EFL learners to use the target language both inside and outside the classroom. As revealed in the review of literature stated above, speaking, intently subordinated to the notion of communicative competence, has a strong tendency to be taught with the implementation of technology nowadays. In this study, speaking is viewed and assessed in terms of fluency, pronunciation, appropriate use of vocabulary, grammar patterns, and comprehensibility.

In close accordance with the current literature and research studies, in this study it is suggested to develop Armenian EFL learners speaking skill by implementing digital storytelling. Therefore, the questions that are going to be answered in this study with the help of research have more or less positive and justified support. The research questions, posed in this study, are the followings:

1. *To what extent does digital storytelling improve EFL learners' speaking skill?*
2. *What is the EFL learners' attitude towards using digital storytelling for purposes to improve speaking?*
3. *What are students' learning behaviors when using the program?*

2.9 Research Hypothesis

The modern literature of language teaching and learning reviewed in this study shows that there is a strong and justified tendency to view speaking as one of the language skills of upmost importance to master, and in this study, digital storytelling is dedicated to enhance and improve learners' speaking proficiency**.** Thus, the questions that are going to be answered in this project with the help of research have justified support regarding the positive effect that technology has on the teaching and learning of speaking.

However, the field of digital storytelling and language teaching and learning, especially on speaking, being innovative one has not been investigated thoroughly yet. Moreover, the little amount of research conducted in diverse settings cannot be generalized to Armenian EFL setting.

Taking notice of these facts the research study goes on with null hypothesis which is the following:

There is no relationship between EFL learners' speaking skill and digital storytelling.

Chapter 3: Methodology

This methodology chapter introduces the research design of the study. The chapter begins with an overview of the objectives of the study, presents the research methods, its educational setting, and research population. Then it goes on to illustrate the employed procedures and the instruments of data collection. Finally, the chapter is concluded with the description of statistical techniques employed to answer the research questions and the information about the performed calculations.

3.1 Introduction

The main concern of this research study was to investigate to what extent digital storytelling would develop English language learners' speaking proficiency in an Armenian EFL context. Therefore, the current study addressed the issue whether exposing EFL learners to an instructional treatment in which speaking would be developed with the implementation of digital storytelling would result in learners' better gains in oral production or not. The study also attempted to reveal the learners' attitude towards the program, and disclose its advantages and disadvantages according to the learners' perception. It also made an effort to disclose the students' learning behaviors when using the program.

The research questions posed in this study are referred to as cause-effect and descriptive questions. According to Farhady (1995), "*cause-effect questions seek to find causal relationship between the factors of interest*" (p. 72). Descriptive questions are formulated to find out range of a behavior performed by the sample (Farhady, 1995). Therefore, the research questions pursued in this study are the followings:

1. *To what extent does digital storytelling develop EFL learners' speaking skills?*
2. *What is EFL learners' attitude towards using digital storytelling for the purposes of improving speaking skills?*
3. *What are the students' learning behaviors when using the program?*

According to Fraenkel and Wallen (1990) and Farhady (1995), research questions, after being formulated, should be restated in a hypothesis form. In keeping with the literature and current state of research and taking into account the limited number of evidence on the area of interest, the study goes with the following non-directional hypothesis:

"Digital storytelling does not have any effect on the development of Armenian EFL learners' speaking proficiency."

Accordingly, the hypotheses formulated for the present study are the following:

Null hypothesis: $H_0 = \overline{x}_1 = \overline{x}_2$

Alternative hypothesis: $H_a = \overline{x}_1 \neq \overline{x}_2$

3.2 Research Design

In accordance with the notion that research design is a framework for conducting a research project, it details the methods and procedures necessary for collecting data and analyzing the obtained information. From this perspective, the current study documents mixed-method research with a quasi-experimental design.

The study is reported to be a mixed-method research study since it makes use of both qualitative and quantitative data. It adopted a quasi-experimental design as the study lacked

random assignment of participants. The participants were placed into the corresponding levels on the basis of the proficiency test results. As Hatch and Farhady (1982) state "*quasi experimental designs are practical compromises between true experimentation and the nature of human language behavior to be investigated. By using this design, we control as many variables as we can and also limit the kinds of interpretation we make about cause-effect relationships and hedge the power of our generalization statements*"(p. 24).

Two groups of participants took part in the study as the investigated groups. One of the groups was experimental which received the treatment, i.e. the speaking skill was addressed to be developed with the implementation of digital storytelling. The other was the control group which received no treatment.

Therefore, the research design of this study can be explicated as follows:

Table 1

Research Design

Experimental Group	Pre-test	Treatment	Post-test
Control Group	Pre -test	Placebo	Post-test

In the study, speaking proficiency pre-test was conducted to find out whether there was statistically significant difference in the level of learners' speaking proficiency between two groups at the beginning of the course. Speaking post-test was conducted with the aim to find out whether there were statistically significant changes in the oral performance of the experimental group due to the treatment.

3.3 The Setting of the Study

The current study was conducted in an EFL context in Yerevan, more specifically in the Experimental English Classes, offered by the Department of English Programs in the American University of Armenia. The courses are open to both children and young learners aiming to improve their English language proficiency in all aspects of the language. The classes are student-centered and focus on developing EFL learners' communicative skills. The course lasts for 7 weeks. The classes meet three times a week with duration of an hour and a half.

3.4 The Participants of the Study

The present research study was conducted with EEC students of Communication Level 1(Com 1). The total number of the participants was 24 including males and females. The experimental group consisted of 12 participants, and the same number of participants was addressed to the control group. The age of the participants ranged from 10 to 15. The participants were placed to Com 1 according to the results of the placement test that they took at the very beginning of the course. Therefore, it was implied that the students in both groups had the comparable levels of language proficiency.

Table 2

The summary table of the participants:

Groups	**Number of Students**	**Age**	**Gender**
Experimental	12	11-15	Male/Female
Control	12	10-13	Male/Female

Since the participants of the study were chosen non-randomly but on the basis of some certain criterion, the sampling of students can be called purposive sampling. Farhady (1995) states that purposive sampling is employed when participants are chosen in accordance with the pre-determined characteristics. In terms of this study, the criteria according to which the participants were sampled into the groups included their level of language proficiency, age, and the fact that they belonged to the same culture.

3.5 Materials

Since the experiment was to be conducted with the participants from the same level of EEC, Com 1 the materials in both experimental and control groups were the same. The course textbook which was used for the classes was "New Parade 4" by Herrera M. and Zanetta T. (2000). It is a "*seven-level, communicative language learning program that features TPR, rhymes, songs, chants, pair work, cooperative learning, and hand-on activities and projects*" (Herrera and Zanetta, 2000, p. i). The series contains Student Book, Work Book and CD.

The course book comprises nine units each of which focus on and covers one particular topic. However, during the experimental phase only the first four units ("All About Us", "Last Weekend", "Let's eat", and "Your Health") were covered (See Appendix G).

3.6 The Instrumentation of the Study

According to Arikunto (1996), instrument is an indivisible part of a research study, and serves as a means used to collect the data. There were three sets of measurement instruments employed in this study: speaking proficiency pre-test and post test, a semi-structured interview and a closed – ended attitudinal questionnaire. Both the interview and the questionnaire were administered at the end of the course after carrying out the treatment.

3.6.1. Speaking Proficiency Tests

Speaking proficiency pre and post tests were conducted with the participants of both the experimental and the control groups. The pre-test was conducted at the very beginning of the course and the post-test at the end of it, i.e. 21 sessions after the pre-test.

The pre-test was conducted with the purpose to assess participants' speaking performance in both groups prior to the treatment. Therefore, it was conducted to find out the initial level of the participants' speaking proficiency. The post-test was conducted when the treatment in the experimental group was over. It aimed at assessing the participants speaking proficiency after getting the treatment and reveal whether it had any effect on speaking or not.

During the tests, the participants were examined individually. The tests were rated by two raters on the basis of an adapted analytic rubric (see Appendix C). The examinees were recorded and graded; each rater graded them individually and then the average of the grades was calculated via SPSS. An inter rater reliability was also conducted to find the consistency between the scores.

According to the criteria suggested by Bachman (2004), the formula for calculating the scores was the following:

$$\frac{RS_1 + RS_2}{2} = FS$$

where RS_1 is the score given to the examinee by one rater and RS_2 is the score given by the other rater, and FS is the final score.

Both pre and post tests were parallel, i.e. they had the same structure and the same level of complexity but different content. The tests were developed according to the criteria suggested by PET Speaking Test. Accordingly, the tasks and the materials developed for the tests were adopted from this speaking test.

Both tests consisted of three tasks: warm-up questions, simulated situations, and open-ended questions. The tests contained different sets of questions with the aim to minimize the outflow of information and ask learners different questions. The time allocation for both tests was 10-11 minutes per learner including clarifications on instructions, doubts, etc. The total score for the tests was 20.

Part 1 (Warm-up Questions) was composed of questions about some personal information and the examinee was to interact with the examiners. The main purpose of the task was to test the examinee's language of social interaction, enable him or her to make an initial contribution to the test by using simple everyday language. Since the task allowed the examinee to use simple everyday language, it also aimed to help to settle the examinee, decrease his or her anxiety, enable him or her to overcome any initial nervousness, feel comfortable and stress-free with the aim to have more valid scores on the speaking proficiency. The task also assessed the examinee's ability to take part in spontaneous communication and interact in the target language in an everyday setting. It lasted for 2-3 minutes and included 8-9 questions per learner. E.g.

1. *Hello. How are you?*
2. *What's your name?*
3. *What's your surname? How do you spell it?*
4. *How old are you?*

5. *Where do you live?*
6. *Where do you study?*
7. *Do you enjoy studying English?*
8. *Do you think that English will be useful to you in future?*
9. *What do you enjoy doing in your free time?*
10. *What is your favorite book? What is it about?*

Part 2 of both tests involved a simulated situation which required the examinee to elaborate on the visual prompts and participate in the follow-up discussion. The task had follow-up questions asking the examinee to speak about his or her own experience referring to the picture. This part was designated to assess the examinee's ability to use the target language fluently and appropriately in different situations making use of good grammar and vocabulary. The overall time provided for this task was 3-4 minutes and the examinee was given one minute to get prepared.

Example: The examiners introduced the task: "*At the end of the school year, your class is going to spend a day at the seaside. Speak about the things that you will do there*."

The task was followed with some questions, e.g.

1. What are you planning to do with your class this holiday?
2. Where are you planning to go?
3. What will you do there?
4. Have you ever gone anywhere with your class? What did you do there?

Part 3 consisted of open-ended questions aiming to create an interaction between the examiners and the examinee and make the examinee express his or her opinion or preference around a posed statement in the target language. The task aimed at assessing the examinee's fluency in expressing his or her thoughts in the target language and appropriate use of grammar, vocabulary, pronunciation, and the ability to give fully and reasonable responses. The time allocation for this task was 3-4 minutes. The questions in this task were like the following:

1. Nowadays many parents do not allow their children to play computer games. What is your opinion about this? Do your parents allow you to play computer games? Would you allow your children to play computer games? Why?
2. Some people think that going in for sports helps them to stay healthy. What is your opinion about this? What do you think what kinds of sports help people to stay in a good shape?
3. Some people prefer traditional food and eating in restaurants, others prefer fast food places. What is your opinion about this? Where do you prefer to go? What do you prefer to eat?

Therefore, both pre and post tests were designated to measure the learners speaking proficiency in terms of fluency, pronunciation, vocabulary, grammar, and comprehensibility.

3.6.1.1 Assessment of Tests

Throughout the test, the examinees were assessed according to their proficiency in speaking. They were expected to develop conversations, participate in the interactions, and respond to the tasks correctly and appropriately. During both tests the raters graded the examinees on their own without collaborating with each other. However, when the exams were over, the raters collaborated on their grades to see the consistency and reliability of the scores. In case of any disagreement and great inconsistency between scores, the raters referred to the audio recordings which were taken during the tests and discussed their performance, and graded the examinees again.

The criterion-referenced assessment was applied when grading the examinees; i.e. they were assessed on their individual performance, not in relation to each other. They were graded according to analytic rubric with the grading range being 1-4 (see Appendix C).

3.6.2 Interview

This research study conducted a semi-structured interview. Farhady (1995) states that "*interviews probably provide the most valid sort of data about a phenomenon*" (p. 220). The reason for this study to adopt the interview are the followings: the interactive nature of interview, since many participants are willing to communicate orally in face-to-face situation, and facial expressions, body movements, clarifications, and repetitions all of which are devices that make the data more valid (Farhady, 1995).

The interview was conducted in the target language. It was administered to the participants of the experimental group at the end of the course. The interview was composed of two parts and integrated 10 questions prepared in advance. The series of questions in the first

category aimed to investigate the learners' viewpoints, perception, and impression of implementing digital storytelling. The learners were also asked to identify the shortcomings and the benefits of the program. The second category was directed to investigate information about the students' learning behaviors; that's to say, how much time they spent on creating their digital stories, how many times they rerecorded themselves and whether they read from scripts or not. The aim of the interview was clarified to the participants before the interview began. It was conducted face-to-face, and the participants were type recorded and transcribed (see Appendix D).

3.6.3 Questionnaire

Though there is a wide range of reasons for designing a structured questionnaire, the most important one chosen for this study is that structured questionnaires are easy to fill in. Since there are predetermined sets of answers with certain responses, the responders select one of them (Farhady, 1995). Moreover, in the case of closed questionnaires the responses given by respondents can be easily and consistently analyzed (Mackey & Gass, 2005).

In the close-ended questionnaire, employed in this study, the choices were uniform within the domain of the provided responses. The questionnaire involved 10 statements aiming to investigate the Armenian EFL learners' attitude and perception towards using digital storytelling with the purpose to develop their speaking skill. The questionnaire was conducted with the participants of the experimental group at the end of the course (see Appendix E).

Likert scale items were used in the questionnaire. The reason for choosing Likert scale was because the questionnaire was in a statement form, i.e. the closed form or structured questionnaire integrated a set of items, each consisting of four options (strongly disagree,

disagree, agree, or strongly agree). The participants were asked to select the one from among possible choices that was most likely to be his or her response.

The statements of the questionnaire were provided in the target language and the learners' native language, i.e. both in English and in Armenian. The reason for providing the questionnaire in both languages was twofold: firstly, it put the researcher on the save and more confident side to gain reliable results, and secondly, it saved the learners of the concern of misunderstanding.

It is also worth mentioning that the questionnaire was handed to the learners printed and they were asked to take some 15 minutes to fill it in and handle in. The learners were not allowed to take it home and return later (see Appendix E).

3.7 The Procedures of the Study

The present research study employed the following procedures while collecting the data.

3.7.1 Pilot test

After designing the test, it was piloted to find out the validity and reliability of the instrument. Pilot test was conducted with 5 students who were at the 8-10 grades.

3.7.2 Experiment

To answer the first question of the study the experimental method was employed. The two groups participating in the study had their classes on the same days, with the same syllabus, materials and amount of time, since according to placement test the participants of both groups

were placed into the same level of the program. The experiment lasted 7 week. The classes met twice a week and each session lasted an hour and a half.

The schematic representation of the experiment is the following:

T1 X T2

where T1 is the pre-test, X is the treatment, and T2 is the post-test.

3.7.2.1 Pre-test

At the beginning of the course, the participants of both the control and the experimental groups took pre-test. All the participants were given the same test in order to measure their performance to the point. The pre-test was administered to both the experimental and the control groups on the same day. However, taking into consideration that it was a speaking test and the learners were examined individually, they were separated randomly into small groups of three and each group was asked to come at different time: each group was to arrive at the exam 10 minutes after the previous one. Moreover, when the examinee left the examination room he was accompanied to the door to make sure that he had no opportunity to speak with other learners. This was done with the purpose to minimize the outflow of information about the test content.

The tests began with a general conversation (Part 1) which was led by the examiners, who interacted as interlocutors. The interlocutors asked the examinee general questions about his or her personal details, daily routines, preferences, likes and dislikes, etc. In part 1 the examiner by asking questions about his or her likes and dislikes, daily routines, etc. encouraged the examinee to extent his or her answers with reasons and examples.

The second part of the test adopted a form of a simulated situation where the examiner set up the task by giving the instruction and took no further part in the task until the discussion. First, the examinee was given a sheet of visual prompts which was designed to generate ideas and provide basis for further discussion. Then, he or she was asked the follow-up questions and was expected to maintain a discussion.

In the last part of the test, the examiners provided the examinee with certain themes as the starting points for general conversation, and the examinee was to express his or her own opinion, views, preferences, etc. around the posed themes. The examinee was expected to develop and maintain conversation by giving reasonable responses to the questions. If, at any time during the tests, the examinee had difficulty in understanding an instruction, the examiners willingly repeated them.

3.7.2.2 Treatment

After having the pre-test conducted, the experimental phase began. Both the control and the experimental groups had the same learning materials, did the same activities and the same syllabus (see Appendix G). However, the experimental group received the treatment and the control group received the placebo. In other words, the population of the experimental group was asked to carry out their speaking tasks by implementing digital storytelling. Meanwhile, the participants of the control group carried out the same speaking tasks without implementing of the program (see Appendix F).

The participants were asked to create their digital stories at home. Speaking tasks were assigned as homework assessments for the very reason that in this way, the learners were provided with an opportunity to have more time to practice, more opportunities to record

themselves and edit their products as many times as they felt appropriate. The participants of the control group were also assigned to prepare the same tasks at home, but without the implementation of the program.

The assessment of the participants speaking tasks in both group were done in the same. No grades were given to the participants; the feedback was provided in form of comments on yellow sheets of paper. The teacher provided them comments how to improve their digital stories asking them to watch and put more focus on their pronunciation, grammar, vocabulary, and fluency. Each student was provided comments according to his or her strength and weaknesses. Another form of feedback was provided to the learners by their peers. The participants were assigned as homework to watch each others' digital stories and gave them stars from * to ****. The participants in the control group who told their stories in class were also provided such kind of stars by their peers.

At the end of the course the participants had 7 digital storytelling products, which they uploaded to YouTube and shared with each other and other audience. Since it required hard work and some time to create digital stories and be able to have good products, the participants were to create 1 digital story per week. That is, they were assigned to create their digital stories with parallel intervals, once per two lessons (see Appendix F). Some of the works of the participants are provided in the study (see Appendix H).

3.7.2.3 Post –Test

The post-test was administered to both groups after having conducted the treatment. The purpose of the post-test was to find out the gains in the participants' oral production, i.e. it attempted to investigate whether a series of digital storytelling tasks improved the participants'

speaking skills to some statistically significant extent or not (Appendix B). The post-test was conducted according to the same principals as the pre-test.

3.7.3 Interview

Interview was the next procedure in collecting the data. It was carried out at the end of the course with the participants of the experimental group. The interview date was decided beforehand with the learners. Before the interview would start, a friendly conversation was carried out with the learners with the aim to create relaxed and warm atmosphere. All the learners were encouraged to feel free and comfortable, and to be honest when giving responses. The interviewees were also encouraged to feel free to express their ideas in Armenian if they feel confused and could not do it in English. However, none of the interviewees referred to Armenian when answering the questions. It took about fifteen minutes to interview each participant. The interview was conducted one-on-one in the target language and it was tape-recorded and transcribed.

3.7.4 Questionnaire

The next procedure of the study was the administration of the attitudinal questionnaire. It was conducted with the participants of the experimental group at the end of the course after they had received the treatment. The questionnaire date was planned in advance and agreed upon by all the learners. All twelve participants of the experimental group filled in the questionnaire. The learners were informed that it was anonymous and were encouraged to give honest responses to the statements.

3.8 Data analysis

The study comprised both quantitative and qualitative data. The quantitative data obtained from the pre and post test scores was analyzed through non-parametric Wilcoxon and Mann-Whitney tests using a statistical program SPSS for Windows Version 16 for within and between group comparisons. Effect sizes of both tests were also calculated. The quantitative data obtained through questionnaire was analyzed through descriptive statistics.

Since the pre and post tests were graded by two raters, an inter-rater reliability analysis was conducted to establish the consistency between the scores. It was conducted via SPSS and the inter-rater reliability was set up according to Cronbach's alpha reliability scale.

To analyze the quantitative data collected through the second category in a frequency analysis was done through descriptive statistics using SPSS package. The mean as the best indicator of the central tendency and standard deviation as the most appropriate one of the dispersion were calculated with the aim to show how much time the learners spent on creating their digital stories and how many times they rerecorded themselves averagely.

Cross-case analysis was employed to analyze the qualitative data obtained through the semi-structured interview. McKey (2006) states that cross-case analysis is appropriate if certain aspects of research topics are to be highlighted since this approach involves analyzing several interviewees' responses in keeping with the topics from the interview. The interview questions were divided into two categories. Each category was analyzed separately.

Chapter 4: Results of the Study

This chapter presents the results of the statistically analyzed data regarding the effect of the implementation of digital storytelling on the learners' speaking skills. It also introduces the statistical analysis of the data which was collected to reveal the learners' attitude towards using this program and investigate its shortcomings and benefits according to the learners' perceptions. The results of the analysis of the data concerning the students' learning behaviors and strategies when creating their digital stories are also provided in this chapter. Therefore, the chapter presents the results of both qualitative and quantitative data analysis.

The first question posed in this research study attempted to investigate the effect of 7-week instructional treatment on speaking skill and was the following:

1. *To what extent does digital storytelling develop EFL learners' speaking skills?*

In order to answer this research question quantitative data was collected via pre and post tests, conducted at the beginning and at the end of the course, respectively.

The second research question in the study was the following:

2. *What is EFL learners' attitude towards using digital storytelling for the purposes of improving speaking skills?*

In order to answer the second research question both qualitative and quantitative data was collected. Quantitative data was collected through close-ended attitudinal questionnaire administered at the end of the treatment, and qualitative data was collected trough a semi-structured interview.

The third question adopted in this research study was stated as follows:

3. *What are the students' learning behaviors when creating their digital stories?*

With an attempt to answer the third research question both qualitative and quantitative data was collected. The data was collected through the interview. The quantitative data was analyzed descriptively, and to analyze the qualitative data a content analysis was conducted.

The organization of the results presented in this chapter is in accordance with the research questions posed in the study.

4.1 Analysis of the Data for the First Research Question

The quantitative data for the first research question was collected through pre and post tests. For the statistical analysis of pre and post test data, Wilcoxon and Mann-Whitney tests were utilized to compare the average ranks of test scores of both experimental and control groups. Wilcoxon and Mann-Whitey tests were employed for between and within group comparisons for the very reasons that the sample sizes of both experimental and control groups were small (less than 30) and the distribution was not normal. Pre and post speaking tests were graded by the teacher and the co-rater. In order to check the reliability and consistency of the teacher's and co-rater's grades, Cronbach's reliability scale was employed.

4.1.1 Inter-Rater Reliability Analysis

Since there is a need to be sure that the scores obtained for data analysis are consistent measures of the ability which is intended to be measured, two raters graded the participants. In order to establish inter-rater reliability of the scores of both pre and post speaking tests, statistical analysis was conducted using the reliability test. Cronbach's alpha reliability scale was employed to measure the internal consistency of scores.

As it can be seen in Table 1, Cronbach's Alpha for the pre-test which was graded by both the teacher and the co-rater is equal to 0.951 which suggests that the items have very high internal consistency since a reliability coefficient of .70 or higher is regarded as high reliability.

Table 3

Reliability Statistics for Pre-Test

Cronbach's Alpha	N of Items
.951	2

As Table 2 shows, Cronbach's Alpha for the post- test graded by the teacher and the co-rater is equal to 0.975 which again assigns a very high reliability.

Table 4

Reliability Statistics for Post-Test

Cronbach's Alpha	N of Items
.975	2

Table 3 presents the reliability for four items. Cronbach's Alpha for the pre-test graded by the teacher-rater and the co-rater, the post-test graded by the teacher-rater and the co-rater is equal to 0.952 which, according to the scale, suggests a very high internal consistent reliability. Accordingly, it can be stated that there exists a high inter-rater reliability between the speaking pre and post test scores.

Table 5

Reliability Statistics for Pre and Post Tests

Cronbach's Alpha	*N of Items*
.952	4

4.1.2 Pre and Post Test Analysis

The first set of data in this study was collected through pre and post-tests conducted in both the experimental and control groups at the beginning and at the end of the course. To further present the analysis of the data, it is appropriate to start from representing the mean scores of pre and post tests in both groups. The mean score for each group is presented in Table 4.

Table 6

Mean Scores of Each Group

Tests	**Groups**	**N**	**Mean Scores**
Pre	Control	12	10,83
	Experimental	12	11,79
Post	Control	12	12,92
	Experimental	12	16,54

It is worth mentioning that when conducting further calculations for within and between group comparisons, the mean scores were transformed into mean ranks because of the limited number of the participants.

4.1.2.1 Wilcoxon Tests for within Group Comparisons

In order to perform analysis of within group comparisons and explore to what extent the participants in both groups improved their speaking skills, Wilcoxon Test was employed where the average ranks of scores of the pre and post tests were compared to each other. Wilcoxon Test is the non-parametric equivalent of the paired samples t-test. It is employed in this study since the sample size is small and the sample data are not normally distributed. Wilcoxon Test for paired data ranks the absolute value of the differences between the paired data and essentially calculates the differences between each set of pairs and analyzes these differences (Altman, 1991).

In order to conduct within group analysis, two comparisons are made:

Comparison 1: *Did the control group improve speaking skill significantly due to the instruction at the end of the course?*

To conduct this comparison, Wilcoxon Test was carried out based on the pre-test and the post-test scores of the control group. Table 7 below displays the results of the analysis.

Table 7

Wilcoxon Test for Control Group

	posttest - pretest
Z	-3.070[a]
Asymp. Sig. (2-tailed)	.002

As the table illustrates, for Wilcoxon test of within group comparison of the pre and post tests results of the control group, the Z value is 3.070 with significance level of p =.002. As the analysis show the probability value is less than 0.05 which shows a significant difference between the pre-test and the post-test scores of the control group in favor of the post-test. Therefore, it can be concluded that the learners in the control group benefited from the instruction to great extent.

Comparison 2: *Did the experimental group improve speaking skill significantly due to the treatment at the end of the course?*

In order to answer this question, another Wilcoxon test was accomplished between the pre and post test scores of the experimental group. Table 8 tabulates the results of the analysis of the experimental group.

Table 8

Wilcoxon Test for Experimental Group

	posttest - pretest
Z	-3.074[a]
Asymp. Sig. (2-tailed)	.002

In close line with the results represented in the table above, for Wilcoxon test of comparison of pre and post test results in the experimental group, the Z value is 3.074 with significance level of p = .002. Since the probability p is less than 0.05 it can be assumed that there is a significant difference between the learners' performance of speaking pre and post tests in the experimental group in favor of the pos- test.

Accordingly, the results of the Wilcoxon test analysis revealed that the learners in both control and experimental groups performed better on the post-test, and thus, there was observed progress in both groups. This may mean that the instructions in both groups were effective and promoted the improvement of speaking skills. However, to reveal what effect the instructions had on the participants' speaking skills in both groups, effect size was also calculated.

4.1.2.2 Effect Size for WIlxocon Test

Effect size is calculated with the aim to quantify the difference between or within two groups and emphasize the size of the differences between the samples. Therefore, it may be considered to be a true measure of the significance of the difference. According to Coolidge (2000), effect size refers to the effect of the influence of the independent variable upon the dependent variable.

Effect size is calculated according to the following formula: r=Z/square root of N where N=total number of cases.

Accordingly, the effect size for Wilcoxon test for the experimental group is 0.627. Meanwhile, effect size of Wilcoxon test for the control group is 0.626.

According to Cohen's (1998) criteria, 0.1 means small effect, 0.3 means medium effect, and 0.5 means large effect. As the calculations showed effect size for Wilxocon within group comparison is larger than 0.5 which designates large effect. Therefore, it can be concluded that both the experimental and non-experimental methods were useful and had large effect on the learners' speaking skills.

4.1.2.3 Mann-Whitney U Tests for between Group Comparisons.

With the aim to determine the results of the pre and post tests between both groups, Mann-Whitney U test was employed. The Mann-Whitney U test is a non-parametric test that is equivalent of unpaired t-test used to compare two independent groups of sampled data. It is employed for sets of data where the distribution of scores does not meet the normality assumption of the parametric tests. This test uses the ranks of the data rather than their raw values in order to calculate the statistics. Therefore, it converts the scores on the continuous variable to ranks between the two groups and shows whether the ranks for the groups differ significantly or not (Sheir, 2004, Pallant, 2007).

The test statistics for Mann-Whitney test is U. If U does not exceed the critical value at some significance level (usually 0,05), it means that there is enough evidence to reject the null hypothesis.

In order to analyze the data and answer the research questions, several comparisons were made subsequently:

Comparison 1**:** *Was there any significant difference between the performances on the speaking pre-test of the control and experimental groups before the experiment?*

Table 4 illustrates the results of the mean rank of twelve sets of the pre- test scores for the experimental and control groups.

Table 9

Mann-Whitney Test of Pre-Test Scores

	pretest
Mann-Whitney U	53.500
Z	-1.072
Asymp. Sig. (2-tailed)	.284
Exact Sig. [2*(1-tailed Sig.)]	.291[a]

As it can be observed in the table above, for Mann-Whitney test of comparison of the pre-test results for both experimental and control groups, the Z value is .1.072 with a significance level of p=0.291. Since the probability value is larger than 0.05, it can be stated that there was no significant different in the pre-test results of the two groups. Accordingly, it can be concluded that the two groups were at the similar level of speaking skill at the beginning of the course.

Comparison 2: *Was there any significant difference between the performances on the speaking post-test of the control and experimental groups after the experiment?*

To answer this question, Mann-Whitney test was carried out to compare the means ranks of the speaking post-test scores of both groups. Table 6 elucidates the results of the mean rank of the twelve sets of the post-test scores of two groups after getting the treatment.

Table 10

Mann-Whitney Test of Post-Test Scores

	posttest
Mann-Whitney U	14.000
Z	-3.351
Asymp. Sig. (2-tailed)	.001
Exact Sig. [2*(1-tailed Sig.)]	.000[a]

According to results presented in the table above, for Mann-Whitney test of the comparison of the post-test results for the experimental and control groups, the Z value is .3.351 with a significance level of p=0.000. The probability value is less than 0.05 which indicates statistically significant difference between the two groups. Accordingly, it can be concluded that the two groups that had the similar level of speaking skill at the beginning of the course showed different results on the post-test in favor of the experimental group. Therefore, the analysis of the data obtained from the pre and post tests revealed that the implementation of digital storytelling had positive effect on the learners' speaking skills and thus, the null hypothesis of the study was rejected.

4.1.2.4 Effect Size for Mann-Whitney Test

Effect size for Mann-Whitney between group comparison test was also calculated. Effect size for Mann-Whitney pre-test is 0.217. Effect size for Mann-Whitney post-test is 0.684. As the calculations show, effect size for pre-test is larger than 0.1 and smaller than 0.3. However, it is

very close to 0.3 and, therefore indicates medium effect. Effect size for the post-test is higher than 0.5 which designates large effect.

Hence, the results of the data collected to answer the first research question and examine the effect of digital storytelling on the speaking skills revealed that there was statistically significant difference between the two adjusted means of the learners' speaking test scores due to the teaching procedure in favor of the experimental group.

4.2 Analysis of the Data for the Second Research Question

To answer the second research question and disclose the learners' attitude towards the program, its shortcomings and benefits, and its effect on their speaking skill according to the learners' perception, both quantitative and qualitative data was collected. The quantitative data was collected through an attitudinal questionnaire, and the qualitative data was collected via a semi-structured interview.

4.2.1. Analysis of the Quantitative Data

The analysis of the quantitative data collected for the present study included the analysis of the attitudinal questionnaire. The attitudinal questionnaire conducted in the experimental group with twelve learners was analyzed via frequency analysis. The questionnaire consisted of 10 items with close-ended statements. It was conducted with an attempt to investigate the learners' attitude and perception towards the use of digital storytelling. The thorough analysis and discussion of the questionnaire data are provided in Table 9.

In the following table, the summary of the participants' responses is presented in percentage.

Table 11

Results of the questionnaire analysis

Questionnaire Statements	Strongly Disagree	Disagree	Agree	Strongly Agree
1. Computer programs are very important in language learning.	0%	8.3%	41.7%	50%
2. I enjoyed making Digital Stories very much.	0%	16.7%	33.3%	50%
3. Digital storytelling helped me improve me speaking skill in terms of: a. Pronunciation	0%	0%	50%	50%
b. Fluency	0%	0%	41.7%	58.3%
c. Grammar	0%	25%	75%	0%
d. Vocabulary	0%	0%	66.7%	33.3%
e. Comprehension	0%	8.3%	75%	16.7%
4. Digital Storytelling gives me more opportunities to use the target language outside the classroom.	0%	8.3%	83.3%	8.3%
5. Digital Storytelling helps me better organize and express my thoughts orally.	0%	0%	66.7%	33.3%
6. Recording myself for several times does not help me practice and improve my speaking skill.	66.7%	33.3%	0%	0%
7. Making digital stories is boring for me because I spend much more time on other activities rather than on recording myself.	25%	75%	0%	0%
8. I think besides recording myself without any scripts, reading	0%	16.7%	66.7%	16.7%

from the scripts also helps me develop my speaking.				
9. Digital storytelling has more advantages rather than disadvantages.	0%	8.3%	58.3%	33.3%
10. I would like to have another course using this program to develop my speaking skills.	0	0	50%	50%

Exploring the results of the questionnaire analysis, it becomes obvious that the learners highly appreciated the important role of computer programs in language learning. They liked the program and enjoyed making their digital stories to great extent. The great majority of the learners stated that it helped them to improve their speaking skills. They agreed and strongly agreed that due to the implementation of the program their pronunciation, fluency, vocabulary, as well as grammar and comprehension were improved.

The great number of the participants agreed to the posed idea that digital storytelling provided them more opportunities to practice the target language outside the classroom. They also highlighted that it helped them to better organize and express their thoughts and to produce more beautiful speeches. It is worth mentioning that neither of the participants gave a negative answer to the statement.

To the negative statement that digital storytelling did not help them to practice and improve their speaking skills, the vast majority of the learners strongly disagreed and the rest of them simple disagreed. Therefore, it can be claimed that all the learners were sure and stated that the program enabled them to practice and improve their speaking proficiency in the target language.

By giving only negative answers to the statement that making digital stories was boring since they spent much more time on other activities rather than on recording themselves, the learners stated that it was not boring for them to create their stories.

According to the results of the questionnaire analysis, the vast majority of the learners strongly agreed or simply agreed that both writing scripts and reading from them while recording helped them develop and improve their speaking skills. Only a small number of the participants disagreed to the statement, which, however, was not enough to be generalized.

The analysis of the statement which aimed at investigating the learners' attitude towards the program in terms of its advantages and disadvantages showed that the vast majority of the learners stated that it had more advantages rather than disadvantages. Last, but not least, all the participants stated their highly positive attitude towards the program claiming that they would like to have another course with the integration of digital storytelling.

Summing up the results of the attitudinal questionnaire, it can be inferred that the participants demonstrated a very positive attitude towards the program. They stated that making digital stories helped them to improve their speaking skills, and that they would like to have another course in which the program would be implemented again. The learners also documented that the program had more advantages rather than disadvantages. They mentioned that making scripts and reading from them while recording also promoted the development of the speaking skill.

4.2.2 Analysis of the Qualitative Data

As mentioned overhead, in order to answer the second research question qualitative data was also collected through a semi-structured interview. It was conducted with the twelve

participants of the experimental group at the end of the course after getting the treatment. After having all interview data collected, a content analysis was done with an attempt to answer the second research questions. It's worth mentioning that this qualitative data was collected through the first category in the interview.

Cross-case analysis was used to analyze the interview data. According to McKay (2006), this approach is considered appropriate if the researcher wants to highlight particular aspects of the interview data. Thus, the interview questions were divided into two areas of interest, namely "Attitude" and "Reasons for rerecording." The category of "Attitude" which served as an umbrella term for both positive and negative ones was composed of two areas of interest, or two subcategories, which were classified under the following topics: "Positive Attitude" and "Negative Attitude." This category comprised questions aiming at disclosing the learners' attitude towards the implementation of digital storytelling by revealing their perception towards the advantages and disadvantages of the program. This category included questions 1, 2, 3, 4, 5, and 6.

The second category aimed at revealing the reasons why the learners rerecorded themselves and comprised question 9. Each of the categories was viewed and analyzed separately with the purpose to collect the common responses related to the topics.

The results of the analysis of this qualitative data are summarized according to themes and are presented in the table below.

Table 12

Summary Table of Interview Data

Categories		Themes
Attitude	Positive Attitude	**Regarding learners** • Enjoy it to a great extent • Think it's innovative and motivating way of learning • Highlight it to be funny • Mention it to be user-friendly and flexible **In terms of learning** • Provide better outcomes in speaking proficiency • Provide better gains in vocabulary • Provide practice in pronunciation • Expose learners to authentic language use • Make speaking in the target language easier and comfortable • Make speaking organized, fluent and accurate **Regarding the program** • Have potential to develop speaking • Personalize learning • Become active participants of the own learning • Be engaged in learning • Be life-long learners • Become confident in the target language • Upload and share with the audience • Provide unlimited number of recording
	Negative Attitude	• Time –consuming • Practice requiring

Reasons for Rerecording	• Mispronunciation • Grammar errors • Not enough fluency in the speech • Not enough decent speech

According to the analysis of the responses in the first category, the learners' attitude towards the program was revealed to be very positive. All of the learners emphasized the fact that it was very interesting, funny, and useful for them to use the program. The learners highlighted that they greatly enjoyed making their digital stories. They added that it was a new and wonderful way to learn a language. All responses to the third question of the first category were positive and the learners expressed their willingness to continue using the program during their further studies. A set of learners mentioned that they very much liked the fact that he had an opportunity to share their digital stories and that people watched them and voted for them.

The second question of this category was posed to elicit information about the learners' opinion whether digital storytelling helped them to improve their speaking skills. The question was also directed to disclose how the program developed their oral proficiency. A great number of the responses were positive and all the learners assured that it helped them to develop their speaking. They mentioned that due to digital storytelling their speaking was improved in terms of pronunciation, fluency, grammar, and vocabulary. They enthusiastically stated that they learnt many new words while making their stories and their speaking was also improved due to the opportunity to rerecord themselves which led to the development of the pronunciation and fluency.

The majority of the learners highlighted as an advantage that they were able to import their own pictures and record themselves as many times as they liked, and they were able to upload and share their stories. They said that the program helped them to organize and produce beautiful and organized speech.

Analyzing answers to the question which aimed at finding out the shortcomings of the program, the learners' responses agreed upon the fact that at the beginning it required some practice. A set of responses revealed that at first the learners had some difficulties while recording themselves. Another set of responses was that at the beginning it required them much time to create their digital stories until they got used to it.

The analysis of the question which was posed to reveal the learners' perception whether reading from scripts while recording could develop their speaking skills demonstrated that the learners did not view reading as a barrier. They claimed that using the program speaking would be developed in any case whether reading from the scripts or not.

The question in the second category tried to disclose the reasons why the learners rerecorded themselves. The analysis of the responses showed that the reasons for rerecording varied from pronunciation mistakes, grammar mistakes to making more beautiful speeches or having something forgotten to say. A great number of the learners stated that they had pronunciation mistakes and they checked the correct pronunciation of the words and rerecorded themselves again. Others mentioned that they had grammar or vocabulary mistakes that were why they rerecorded themselves. A great number of the learners highlighted that while listening to their recordings they did not like their pronunciation and their speech was not fluent enough, and they rerecorded themselves several times to have better products.

Accordingly, the analysis of the data obtained for the second research question revealed the learners' positive attitude towards the program. The learners restated the positive effect of digital storytelling on the development of their speaking skills. Among the advantages of the program the learners mentioned the fact that it provided them with great opportunities to improve their speaking skills. They highlighted the positive effect that the program had on their vocabulary, fluency, grammar, and pronunciation.

The analysis of the data also showed that the learners liked the course and were willing to have another course with the integration of the digital storytelling. It was also disclosed that digital storytelling turned out to have much more advantages rather than disadvantages. Though it was rather time-consuming and required some practice, the learners enjoyed creating their digital to great extent. They advocated it to be an innovative and amazing way of learning.

4.3 Analysis of the Data for the Third Research Question

The third research question of the study was posed to reveal the students' learning behaviors and strategies when creating their digital stories. The data for this research question contained both qualitative and quantitative data which was collected through the second category in the interview. The quantitative data was collected to reveal how many times the learners recorded themselves and how much time it took them. Due to the qualitative data an attempt was made to reveal whether the learners read from the scripts while being recorded. Quantitative data was analyzed through frequency analysis and qualitative data was analyzed through content analysis.

4.3.1 Analysis of the Quantitative Data

According to the learners' answers, the data of the question "*How many times did you record yourself*?" was divided into two set. The first set of the data was to disclose the number of times the learners recorded themselves during their first products (2-3). The second set of data was to reveal the number of times they recorded themselves for last products (4-7). While conducting the analysis the means and standard deviations for both sets of data were calculated. The mean was calculated with the aim to present the average score of the distribution, and standard deviation was calculated as the most commonly used indicator of variability with the aim to indicate how much, on average, scores tend to vary, or deviate, from the mean (Bachman, 2004).

The results of the analysis are tabulated below:

Table 13

Means and Standard Deviation for the First Question

Set of Data	Mean	St. Dev
First	5	1.2
Second	3	0.6

The mean for the first data is 5, and standard deviation is 1.2 which designates that while creating their first digital stories the learners did it on average 5 times. The mean for the second set of data trying to investigate how many times they rerecorded themselves while creating their last digital stories is 3 and standard deviation is 0.6.

Figure 1 represents the histogram as a graphic display of the results in order to interpret the data better and more clearly.

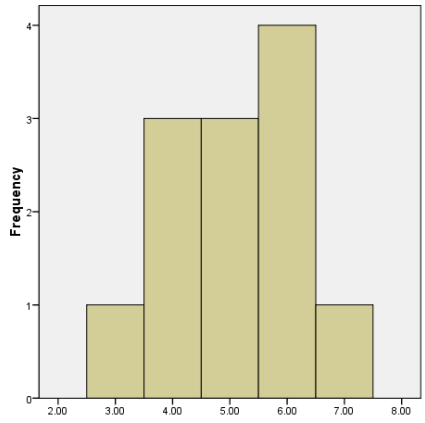

Figure 1 Histogram output for the first data set

The histogram below presents a clear picture of the properties of the second data set.

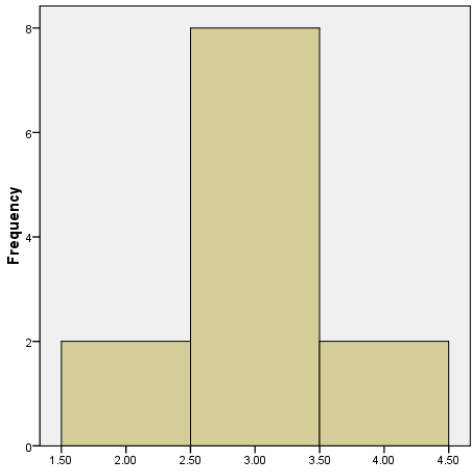

Figure 2 Histogram output for the second set of data

The data collected for the second question was directed to reveal the answer to the following question: *"How much time did you spend on making your digital stories?"* In order to analyze the data, it was divided into two sets: the first set was to reveal how much time the learners spent on creating their first digital stories (1-3), and the second set was directed to display how much time they spent on creating their last digital stories (4-7) after becoming more proficient in using the program. It is worth mentioning that the time is presented in minutes. The mean and standard deviation calculated for these two sets of are presented in the table which follows:

Table 14

Means and Standard Deviation for the Second Question

Set of Data	Mean	St. Dev
First	60	8.1
Second	31	6.7

The results of the data for both the first and second sets are also presented in graphic displays to provide clear picture of the data.

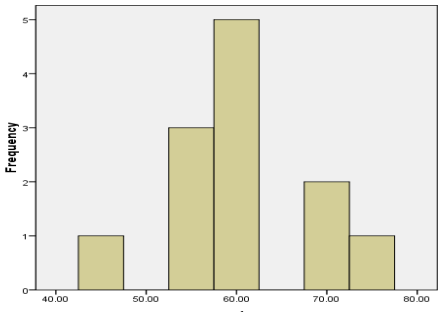

Figure 3 Histogram output of the first set of data

Figure 3 illustrates the properties for the first set of data and clearly shows that the learners spent on average 60 minutes to create their first digital stories. However, gaining some practice and becoming proficient in using the program it required them 31 minutes to create their last digital stories as demonstrated in Figure 4.

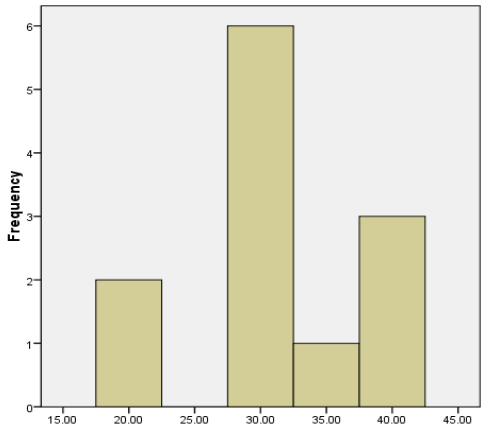

Figure 4 Histogram output of the second data set

A set of responses revealed that for the first two-three digital stories, it took the learners on average an hour to have final products. However, having gained some practice it took them on average 30 seconds to produce their final products.

Accordingly, taking into account the results of the quantitative data, it becomes clear that the learners while creating their first digital stories spent on average 60 minutes and rerecorded themselves for 5 times averagely. However, becoming proficient it took them on average 30 minutes, and they rerecorded themselves for 3 times averagely.

4.3.2 Analysis of the Qualitative Data

The qualitative data for the third research question was addressed to reveal the learners' behaviors while creating their digital stories. It comprised the following question: "*In which way*

do you prefer to make your digital stories: reading from the scripts or making your speech without getting prepared in advance? Did you read from the scripts when making your digital stories?" The question included two parts: the first part aimed at preparing the learners to answer honestly to the main question.

The results of the data analysis for this question are represented in themes in the following table:

Table 15

Summary Table of Themes

	Students' learning behaviors when using the program
Themes	• Having a script • Being well-prepared for speech • Reading to have more fluent and error-free stories

The analysis of the answers showed that the majority of the learners thought of both ways to be effective. They stated that the speaking skill would be developed whether reading from scripts or not. Another set of the learners highlighted that it would be better not to read from scripts while recording, but even reading could not hinder the improvement of the speaking. The minority of the learners expressed the opposite idea and mentioned that reading should not be done while being recorded.

Trying to reveal whether the learners read from the scripts or not, it was disclosed that a set of the learners preferred to have their speeches prepared and get ready before being recorded. They said that being prepared they did not read from the scripts. However, they had their speeches in front of them and in case of necessity they had a look at it. Another and major set of responses showed that the learners got prepared in advance, however, they read from the scripts when being recorded, since in this way they were able to produce more accurate and fluent speech and their pronunciation was much better when reading from the scripts. Only a small number of participants highlighted that they wrote their scripts and had their stories prepared before recording, but they did not read from the scripts while recording.

Accordingly, taking into account the results of both qualitative and quantitative data it was disclosed that at first the learners rerecorded themselves for 5 times averagely and it took them 60 minutes. However, while creating their last digital stories they spent on it on average 31 minutes and they rerecorded themselves 3 times averagely. It was disclosed that the vast majority of the learners preferred to write scripts, have their speech prepared, and read while recording or have looks at them. They stated that it helped them to have more fluent and accurate stories free of mispronunciation, grammar, and vocabulary errors.

Chapter 5: Discussion and Conclusion

The present chapter presents the discussion of the results of the statistical analysis of both qualitative and quantitative data. It provides some concluding remarks on the findings of the study. The chapter also introduces the limitations and delimitations of the present research study, and spreads on presenting its pedagogical applications. Last, but not least, it provides some recommendations for further research studies.

This study set out to investigate the effect of digital storytelling experience on the learners' speaking skills, and reveal the learners' attitude towards the program. It was also addressed to investigate the students' learning behaviors when using the program. Therefore, the study attempted to answer the following cause-effect and descriptive research questions making use of both the qualitative and quantitative data:

1. *To what extent does digital storytelling develop Armenian EFL learners' speaking skills?*
2. *What is Armenian EFL learners' attitude towards using digital storytelling for the purposes of improving speaking skills?*
3. *What are the students' learning behaviors when using the program?*

5.1 Discussion on the Findings Related to the First Question

The findings of the quantitative data collected for the first question via the pre and post tests suggest that the effectiveness of the treatment on the speaking skill is positive. While conducting the statistical analysis of the pre-test data, it was revealed that there was no statistically significant difference between the two groups' oral proficiency (p=0,291) at the beginning of the experiment. Carrying outing statistical analysis for within group comparisons, it was revealed that both groups had developed their proficiency in oral production to a large

extent. Effect size for Wilxocon test showed that both non-experimental and experimental methods had large effect. However, between groups comparison conducted for the post test displayed statistically significant difference (p=0.000) in the learners' oral production in favor of the experimental group. Therefore, the research hypothesis was rejected and a positive relationship between digital storytelling and speaking was affirmed.

The findings of the study can be viewed and discussed from different perspectives. Firstly, they can be explained by the fact that language learners can communicate through their digital stories. They have an opportunity to communicate with audience by sharing with them their digital stories. As Kajder and Swenson (2004) state digital storytelling is a tool enabling learners to communicate through screen. The program which in its essence is a short, video-narrative created by the combination of recorded voice, still and moving images, some effects, etc. reinforces learners' speaking skills. While creating their digital stories the learners storyboard, shoot, edit their stories, and rerecord themselves as many times as they feel appropriate, which is believed to be critical in better learning achievements (Standley, 2003, Banaszewski, 2005; Signes, 2008; Barret, 2006). The findings of the study allow assuming that in this way the learners get lots of practice in their fluency, grammar, pronunciation, and vocabulary and become more confident in using the target language and communicating in it.

Secondly, the positive effect of the program on the speaking skill can be explained by the fact that digital storytelling also provides authentic experience since the learners are to utilize real world artifacts in a real world context to create their own stories (Sadik, 2008). They get the opportunity to use the target language not only inside but also outside the classroom and to be more exposed to it.

Finally, such findings of the study can be discussed along these lines; digital storytelling is a hands-on process for learners to participate in as they personalize their learning and develop their speaking due to the stories they tell and how they tell them (Behmer, 2005). This new technological tool enables learners to communicate in innovative ways which were not possible ten years age. Their work is meaningful and authentic (Levin, 2003). Being able to upload their digital stories and share them with the audience both inside and outside the classroom, the learners do their best to have good products since they see that their stories have a direct impact and meaning for others (Levin, 2003). When the learners realize that their digital stories are watched by a large audience they become more motivated and do their best to create their best digitals (Robin, 2005). Therefore, the positive results of the study also suggest that digital storytelling can be viewed as a good way to engage learners in modern ways of learning as it has a significant potential for developing the learners' communicative competence in the target language.

5.2 Discussion on the Findings Related to the Second Research Question

The study was also directed to reveal the learners' attitude towards the program and investigate its benefits and shortcomings according to the learners' perception. The results of the questionnaire and the interview data analysis revealed that the learners had very positive attitude towards the program. The findings showed that they felt very enthusiastic about integrating digital storytelling into their learning and enjoyed it to a great extent. The learners also indicated that it helped them to improve their speaking skills.

Due to the qualitative data an attempt was made to investigate the learners' positive and negative attitude. The majority of the findings were consistent with the ones existing in current

research literature. Therefore, the findings of the qualitative data are presented in close line with the ones in the literature.

The findings disclose that according to the learners' positive attitude, digital storytelling is viewed to contribute to the enrichment of their vocabulary and the improvement of speaking skills in terms of pronunciation, fluency, and grammar. According to the learners' perception, the program, besides providing better outcomes in speaking proficiency, makes speaking in the target language easier and more comfortable, helps to organize and express fluent and accurate speech. The learners' such positive attitude towards the program can be explained by the fact that as digital stories utilize spoken narrative, the learners get to hear how their story sounds; watch their pronunciation, vocabulary, grammar, and fluency. It is the process of using a range of words and pictures, to record own voice to tell a story (Mullen & Linda, 2008). It promotes learners to play with words and become more comfortable with the speaking process (Hull & Katz, 2003; Ohler, 2008).

Due to its easy production and the possibility of uploading, digital storytelling is a user-friendly tool that can serve for the purposes of exchanging learners' ideas and viewpoints on the same topic in regard to no boarders, distance, time, and accessibility (Lowenthal, 2009; Signes, 2008; Dogan & Robin, 2008). The participants of this study highlighted it as an advantage that they could upload their digital stories into YouTube and share them with others. They felt very satisfied and motivated with the fact that their digital stories could be watched and commented by many people.

Going on discussing the results of the interview and the questionnaire analysis it should also be mentioned that the learners found that digital storytelling provided a number of potential

benefits to language learning such as increasing learners' motivation, personalizing the learning experience (Bull & Kajder, 2004; Barret, 2006; Robin, 2008), proving opportunities to use the target language outside the classroom, becoming active participants of their own learning and being engaged in their learning process (Sadik, 2008).

Another important finding of the study suggests support to the idea that digital storytelling provides a means of being able to better express themselves (Banaszewski, 2005; Paull, 2002). The participants stated that digital storytelling encouraged them to organize and express themselves and their ideas in an innovative and meaningful way (Sadik, 2008). The findings revealed as a great advantage of the program the fact that they had the opportunity to record and rerecord themselves numerous times (Signes, 2008; Kennedy, 2010).

Discussing the findings of the learners' negative attitude, time issue and the need of practice are viewed as major ones. The learners also mentioned that they faced some problems while recording for the first time. However, the problems were minor ones and were fixed and solved without any difficultly. Accordingly, two categories can be mentioned as disadvantages of the program: the need for practice and some training before the integration in the curriculum and and the need of more time since it takes learners time to create digital stories (Coutinho, 2009; Robin, 2008, Hughes & Robertson, 2010).

Taking into consideration the findings of the interview and questionnaire data, digital storytelling may be advocated as one of the new and exciting educational technology tools available for use in the language teaching and learning (Dogan & Robin, 2008). It may be documented as the very tool which provides language learners with wide range of advantages rather than disadvantages.

5.3 Discussion on the Findings Related to the Third Research Question

The third research question aimed at revealing some information about the students' learning behaviors when using the program. According to the findings of the quantitative data, it may be inferred that language learners will need much time while using the program for the first times. They may also need to rerecord themselves for many times. However, as the findings of the data suggest becoming more proficient in using the tool they may decrease the numbers of being rerecorded and it may take them less time.

The findings of the qualitative data were to reveal the learners' behaviors when creating their digitals. They disclosed that the participants of this study preferred to write their scripts and be prepared before being recorded. However, in order to have more fluent and better organized stories, that read from the scripts or had their stories in front of them to have looks at it when necessary.

Accordingly, the findings of the study suggest that language learners when using digital storytelling with the aim to develop speaking may use their scripts and read while being recorded. The positive findings of the study suggest not considering reading while recording as a barrier, since the vast majority of the participants read from their scripts, but according to the post test results they were documented to have significant gains in their oral production.

5.4 Limitations and Delimitations of the Study

No research is perfect and the current study is no exception. While being conducted, the present research study encountered several limitations that should be pointed out. The first limitation that should be talked over is the limited number of participants.

The second limitation of the study was time restriction. The study lasted only for seven weeks and the participants were able to have only seven digital products which cannot be considered enough. As a rule of thumb, in order to have more valid and reliable results the study would have better to have enough time duration. If it were longer, it would have had stronger effect and more valid results.

The third limitation of the study is the fact that it had a quasi-experimental design; i.e. the participants were not chosen randomly. Therefore, the findings of the study can be generalized to a certain scope of population.

Another and may be the major limitation of the study was that it was impossible to analyze the data as was supposed beforehand because of some statistical problems, i.e. it was supposed to analyze the impact of digital storytelling on the learners' pronunciation, fluency, vocabulary, and grammar separately. The pre and post tests were scored according to analytic rubric with the aim to analyze the data according to this criterion. However, because of some statistical problems and the statistical complexity, it was advised to analyze speaking as one union of these components.

Therefore, because of the above mentioned limitations, the findings of the study are too limited to be generalized to a wide population.

The findings of the study can be generalized to some certain levels of EEC, such as Com 1, Com 2, Com 3, etc. the ones which are designed for pre-intermediate learners. It can be generalized to the scope of participants whose ages range from 10 to 15 and who have pre-intermediate level of language proficiency. The findings can also be generalized to the scope of population which do not necessary implement computers during their classes, but have them at

home. Since digital storytelling is rather time-consuming, it is better to assigned it as a home task.

Though this study is limited to EEC learners with the certain level of language proficiency and age, the findings can be generalized and applied to other populations. Having in findings significant effect of digital storytelling on learners' speaking skill, it can be suggested to be applied in such educational settings, such as speaking courses, general English courses, etc. with the similar language proficiency and age as the participants of this study had.

5.5 Pedagogical Applications

According to the findings of the present research study, the relationship between digital storytelling and speaking skill is reported to be positive, i.e. the findings of the study support the significant contribution of digital storytelling to the improvement of the learners' speaking skills. Besides the fact, that the learners are documented to have very positive attitude towards implementing the program, it is reported to have more advantages rather than disadvantages. Investigating Armenian EFL learners' learning behaviors when using the program, writing scripts, getting prepared for being rerecorded, importing pictures, some effects, etc. and rerecording for various times are viewed as the principal stages of creating digital stories. Moreover, the findings of the study suggest not being concerned about reading and letting the learners read from their scripts if they feel comfortable.

Armenian EFL teachers may consider the results of the study if they want to enhance their learners speaking skills using technological tools designed for language teaching and learning. They may apply the findings with the aim to fill in the gap existing in the EFL settings, where the learners do not have enough opportunities to transfer their language learning experience into language using experience. EFL learners, as a rule, do not speak the target

language outside the classroom and have limited opportunities to do it in the classroom, either. Therefore, the findings of the study can be put into practice in order to fulfill this gap.

The findings of the study may also be applied with the aim to reinforce EFL learners speaking skills to a certain scope of population as an innovation in the methodology of language teaching and learning in Armenia and make both learning and teaching more effective, engaging, and motivating. The findings may suggest applying digital storytelling in language teaching and learning as the very learning tool to provide new methodologies in the classroom, new competence, more interest, and engagement in the learning process, more motivation, and more creativity (Coutinho, 2009).

Another application of study may be the following; since the current research study is the first one related to the implementation of digital storytelling with the aim to develop speaking skill in Armenian EFL settings, it may be applied as an exploratory study on which further research studies can be conducted.

If another research study were conducted without some of the above mentioned limitations; i.e. if it integrated large number of participants, if it was free of randomization, and if it was a longitudinal study, it would have more generalizable results and the implementation of digital storytelling in Armenian EFL settings would have strong justification to be recommended. It would allow claiming that the program would bring new opportunities into the classroom, enhance the integration of technologies into the curriculum, and promote the development of all language skills, especially speaking.

5.6 Recommendations for Further Research

In close line with the limitations of the study and the fact that this field has not been fully explored, further investigations are encouraged. There is a need for further research which would involve a large number of participants and a long period of time in order that the findings of the study were valid and reliable and could be generalized to other populations.

Therefore, for the further research it is recommended to investigate the following areas:

To reveal

- the effect of digital storytelling in learners fluency, pronunciation, vocabulary and grammar in the target language.
- the effect of digital storytelling on learners' critical thinking
- the relationship between digital storytelling and writing skills
- the impact of digital storytelling on listening skills
- the relationship between digital storytelling and the reinforcement of learners' engagement
- the impact of digital storytelling on project-based learning
- the impact of digital storytelling on collaborative and cooperative learning
- the impact of digital storytelling on speaking skill in other Armenian settings: i.e. in schools or universities

For further study, it would also be appropriate to do a longitudinal research using broader samples of populations from different universities, schools, or educational settings in Yerevan.

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Appendices

Appendix A

Speaking Pre-test

(10-11 minutes)

Task 1: Warm-up questions (2-3 min)

11. Personal Information

1. *What's your name?*
2. *What's your surname? How do you spell it?*
3. *Where do you live?*
4. *How old are you?*
5. *Where do you study?*

6. *Do you have a pet? If yes, talk about it. If no, would you like to have one?*
7. *What do you enjoy doing in your free time?*
8. *Could you tell me about your family?*

9. *Would you like be an only child or have brothers and sisters? Why?*
10. *How often and do you meet your relatives? What do you do together?*
11. *What is your favorite book? What is it about?*

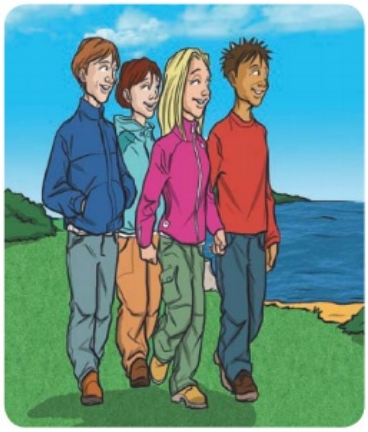
12. *What is your favorite film? What is it about?*
13. *What is your favorite season? What do you enjoy doing at different times of year?*
14. *What are you going to do when you leave school?*

15. *Which is your favorite TV Program? Why do you like it most? What is it about?*
16. *What do you like about your school?*
17. *What is your favorite sport? What kind of sport do you go in for? What kind of sport would you like to go in for?*

Task 2. Simulated situation (3-4 minutes)

At the end of the school year, your class is going to spend a day at the seaside. Speak about the things you will do there.

You have 1 min. to think.



Follow-up questions

1. What are you planning to do with your class?
2. Where are you planning to go with your class?
3. What will you do there?
4. Have you ever gone anywhere with your class? What have you done there?

Task 3. Open-ended Questions (3-4 min.)

1. Nowadays many parents do not allow their children to play computer games. What is your opinion about that? Do your parents allow you to play computer games?

2. Some people think that going in for sports helps them to stay healthy? What is your opinion about this? What kinds of sports do you think help you to stay in good shape (keep fit)?

3. Some children help their parents with housework, some do not. What is your opinion about this? Do you think children should help their parents with the housework? Why and How? If not, Why?

4. Some people think that technological devices make our lives earlier, some have the opposite opinion. What is your opinion about this? Do you think technological devices make our family life easier? If yes, how? If no, why?

Appendix B

Speaking Post –Test

(10 -11 minutes)

Task 1. Warm-up questions (2-3 min)

12. Personal Information

1. *What's your name?*
2. *What's your surname?*
3. *How are you?*
4. *Do you enjoy studying English?*
5. *Do you think English it is important to know English?*

6. *What do you like doing when you are on holiday?*
7. *Do you like to watch a film on TV or in the cinema?*
8. *If you were to travel, where would you go? Why?*

9. *What do you normally have for your breakfast/lunch/dinner/supper?*
10. *What are some of the things that your family usually does together?*
11. *How are your weekdays different from your weekends?*

12. *Could you tell me about your best friend? What is important about a friend for you?*
13. *How do you usually celebrate your birthday?*
14. *What kinds of clothes do you like wear?*

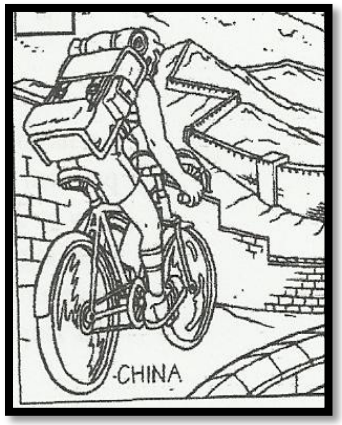
15. *What is your favorite food? How do you prepare it?*
16. *Could you tell me about your dream holiday?*
17. *What is your preferable means of transport (cars, buses, taxes)? Why?*

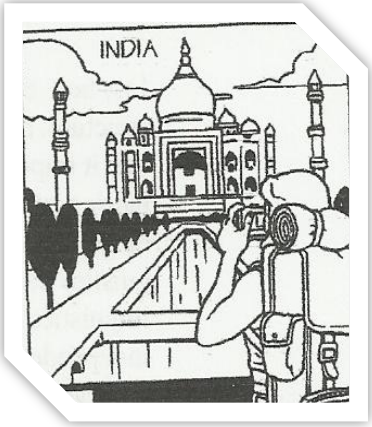
Task 2. Simulated situation (3-4 minutes)

For your summer holidays, your family is planning to travel. Look at the pictures and speak about things that you can do in different countries.

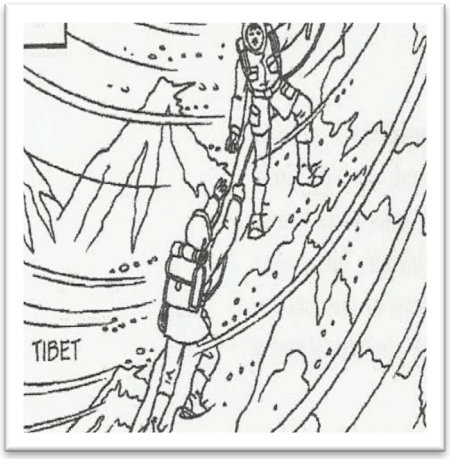
You have 1 min. to think.


ITALY


CHINA


INDIA


HONG KONG


TIBET


AUSTRALIA

Follow-up questions:

1. What are you planning to do with your family for your holidays?
2. Have you ever been to other countries? What have you done there?
3. Where are you planning to go with your family? What will you do there?
4. Have you ever gone anywhere with your family? What have you done there?

Task 3. Open-ended Questions (3-4 min.)

1. Some people prefer living in cities, others in the countries. What is your opinion this? Where would you like to live?

2. Nowadays hunting for some specific kinds of animals are prohibited. What do you think should the hunting be prohibited in our city? If yes, why?, If no, why? What do you think what steps can be taken?

3. Some people prefer celebrating the Christmas with their family members in their houses; others prefer to celebrate it in restaurants with their friends, relatives, etc. What is your opinion about this? How do you prefer to celebrate it? How does your family celebrate Christmas?

4. Some people prefer traditional food and eating in restaurants, others prefer fast food places. What is your opinion about this? Where do you prefer to go? What do you prefer to eat?

Appendix C

Analytic Scale for Assessing Speaking

Vocabulary	1	2	3	4
	Inadequate and/or inaccurate use of vocabulary. Lack of repertoire and frequent errors in word choice often impede comprehension.	Somewhat inadequate and/or inaccurate use of vocabulary. Speaker has difficulty with circumlocution when lacking a particular word.	Adequate and accurate use of vocabulary Good range of vocabulary with limited evidence of sophistication Speaker is comfortable with circumlocution when lacking a particular word.	Rich use of vocabulary. Very good range of vocabulary with evidence of sophistication and native-like expression. Infrequent use of circumlocution because particular words are rarely lacking.

Fluency	1	2	3	4
	Speech halting and uneven with long pauses and/or incomplete thoughts. Speech is very slow and exceedingly halting, strained, and stumbling except for short or memorized expressions. Difficult for a listener to perceive continuity in utterances and speaker	Speech choppy and/or slow with frequent pauses, few or no incomplete thoughts. Speech is slow and often hesitant and jerky. Sentences may be left uncompleted, but speaker is able to continue, however haltingly.	Some hesitation but manages to continue and complete thoughts. Speech is mostly smooth but with some hesitation and unevenness caused primarily by rephrasing and groping for words.	Speech continuous with few pauses or stumbling. Speech is effortless and smooth with speed that approaches that of a native speaker.

	may not be able to continue.			

Grammar	1	2	3	4
	Inadequate and/or inaccurate use of basic language structures. Any accuracy is limited to set or memorized expressions; limited control of even basic syntactic patterns. Frequent errors impede comprehension.	Emerging use of basic language structures. Speaker always conveys meaning in simple sentences. Some important grammatical patterns are uncontrolled and errors may occasionally impede comprehension.	Emerging control of basic language structures. Good command of grammatical structures but with imperfect control of some patterns. Less evidence of complex patterns. Limited number of errors that are not serious and do not impede comprehension.	Control of basic language structures. Very strong command of grammatical structure and some evidence of difficult and complex patterns. Makes infrequent errors that do not impede comprehension.

Pronunciation	1	2	3	4
	Frequently interferes with communication. Frequent pronunciation errors with a heavy non-native accent. Many phonemic errors that make understanding	Occasionally interferes with communication. Identifiable deviations in pronunciation with some phonemic errors. Non-native accent requires careful listening,	Does not interfere with communication. Some identifiable deviations in pronunciation, but with no phonemic errors. Non-native accent evident with occasional	Enhances communication. No consistent or conspicuous mispronunciation; approaches native-like pronunciation with good intonation and

	difficult.	and mispronunciations lead to occasional misunderstanding.	mispronunciations that do not interfere with understanding.	juncture.

Comprehensibility	1	2	3	4
	Responses barely comprehensible	Responses mostly comprehensible, requiring interpretation on the part of the listener	Responses comprehensible, requiring minimal interpretation on the part of the listener	Responses readily comprehensible, requiring no interpretation on the part of the listener

Retrieved from:

http://www.nclrc.org/essentials/assessing/analyticscalepop.htm

http://www.fcps.edu/DIS/OHSICS/forlang/PALS/rubrics/1spk_an.htm

Appendix D

Interview

Category 1

1. What is your attitude towards using DS in your language classes? Did you enjoy making your digital stories? If yes, why? If no, why?
2. What do you think digital storytelling helped you improve your speaking skill? How?
3. Will you continue using digital storytelling during your further studies?
4. What positive features of digital storytelling would you identify after implementing the program?
5. What negative features of digital storytelling would you identify after implementing the program?
6. Do you think that reading while recording can improve your speaking?
7. Why did you rerecord yourself?

Category 2

1. How much time did you spend on making your digital stories?
2. How many times did you record yourself before the final product?
3. In which way do you prefer to make your digital stories: reading from the scripts or making your speech without getting prepared in advance? Did you read from the scripts when making your digital stories?

Appendix E

Questionnaire

Gender	Age
o Male o Female	_____

Please, choose the answer that best reflects your opinion.

1. Computer programs are very important in language learning.
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   □□□□□□□□□□□□□□□ □□□□□□□□□□:
   1. Strongly disagree 3. Agree
   2. Disagree 4. Strongly agree
2. I enjoyed making Digital Stories very much.
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   □□□□□□□□□□□□:
   1. Strongly disagree 3. Strongly agree
   2. Disagree 4. Agree
3. Digital storytelling helped me improve my speaking in terms of
   □□□□ □□□□□□□□ □□□□□□ □□□□ □□□□□□□□□□ □□ □□□□□□□□□□□□
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A. Pronunciation
   □□□□□□□□□□□□□□□
   1. Strongly disagree 3. Strongly agree
   2. Disagree 4. Agree

B. Fluency

□□□□□□□□□□□□

1. Strongly disagree
2. Disagree
3. Strongly agree
4. Agree

C. Grammar

□□□□□□□□□□□□□

1. Strongly disagree
2. Disagree
3. Strongly agree
4. Agree

D. Vocabulary

□□□□□□□□□□

1. Strongly disagree
2. Disagree
3. Strongly agree
4. Agree

E. Comprehension

□□□□□□□□

1. Strongly disagree
2. Disagree
3. Strongly agree
4. Agree

4. Digital Storytelling gives me more opportunities to use the target language outside the classroom.

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1. Strongly disagree
2. Disagree
3. Strongly agree
4. Agree

5. Digital Storytelling helps me better organize and express my thoughts orally.

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1. Strongly disagree
2. Disagree
3. Strongly agree
4. Agree

6. Rerecording myself for several times does not help me practice and improve my speaking skill.

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1. Strongly disagree
2. Disagree
3. Strongly agree
4. Agree

7. Making digital stories is boring for me, because I spend much more time on other activities rather than on recording myself.

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1. Strongly disagree
2. Disagree
3. Strongly agree
4. Agree

8. I think besides recording myself, reading from the scripts also helps me develop my speaking.

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1. Strongly disagree
2. Disagree
3. Strongly agree
4. Agree

9. Digital Storytelling has more advantages rather than disadvantages.

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1. Strongly disagree
2. Disagree
3. Strongly agree
4. Agree

10. I would like to have another course using this program to develop my speaking.

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1. Strongly disagree
2. Disagree
3. Strongly agree
4. Agree

Thank You!!! 

Appendix F

Treatment Schedule

N	Experimental Group Treatment	Control Group Placebo
	Topics to Create Digital Stories	**Topics to Tell Stories**
1	Free topic	Free topic
2	All about me	All about me
3	My Day	My Day
4	My best weekend	My best weekend
5	My meals	My meals
6	My favorite meal (Giving recipient)	My favorite meal (Giving recipient)
7	Play Sports to stay healthy. My rules to stay healthy	Play Sports to stay healthy. My rules to stay healthy

Appendix G

Syllabus

American University of Armenia
Experimental English Classes
Communication 1
Summer, 2011

Course Syllabus

Teacher	Karine Baghdasryan
Email	**karine_baghdasrian@yahoo.com**
Tel	**055-31-35-90**
Class meets	**Tues. Thurs.: 10-11.30**
	Room 12

Course Description:

This course is communicative in nature and mainly focuses on communicative objectives of language teaching. The course is designed for young learners and focuses on multi-skills approach to develop the students' foreign language abilities in an interesting and motivational way. The materials used in the course aim to present authentic language use.

Target Audience

- ***Age*:** 10-15
- ***L2 proficiency*:** Pre-Intermediate
- ***Level*:** Communication 1

Course length: 7 weeks (2 sessions per week)

Required Materials

New Parade 4 Student's Book & Workbook, CD, Tape-recorder, additional materials, etc.

Scope and Sequence

Unit:	Theme:	Communicative Objectives:	Language objectives:
1. *All About Us*	**oneself and one's family**	• **to describe oneself and others** • **to describe emotions and feelings** • **to make comparisons** • **to identify the parts of the body**	• **to use adjectives to describe people and emotions** • **to use clauses with when and than** • **to use comparatives ending in –er**
2. *Last Weekend*	**daily and weekend activities**	• **to talk about one did in the past** • **to talk about common weekend and daily activities** • **to tell time**	• **to use the past tense of irregular verbs** • **to use before and after** • **to form the past tense from base verbs** • **to use the simple present tense**
3. Let's Eat!	**food**	• **to order food from a menu** • **to express wants and preferences** • **to read and write recipes**	• **to use any and some** • **to use would like** • **to use count and noncount nouns** • **to use let's in suggestions**
4. Your health	**health and safety**	• **to talk about illnesses, accidents, and safety** • **to give advice** • **to talk about what one should and shouldn't do to stay healthy** • **to discuss consequences of actions**	• **to use should and shouldn't** • **to use reflexive pronouns** • **to make generalizations**

Students' performance will be evaluated according to the following criteria:

Attendance & Participation	**10%**
Preparedness for the lessons	**10%**
Midterm Exam	**30%**

Final Exam	**40%**
Final Project (Presentation)	**10%**

Course Outline: Summer, 2011

	Days	Units	Homework
Week 1	**Day 1**	**Unit 1:** All about us Act.1-5, pg.2-3, 6-9, pg. 4-5	Workbook Act. 1-4, pg. 1-2, 5-8, pg. 3-4
	Day 2	**Unit 1:** All about us Act. 10-12, pg. 5-6	Workbook Act. 9-11, pg. 5-6
Week 2	**Day 1**	**Unit 1:** All about us Text project pg. 9-11	Workbook Act. 12, 13 pg. 7-8
	Day 2	**Unit 2:** Last Weekend Act. 1-4, pg. 12- 13	Workbook Act. 1-4, pg. 9-10
Week 3	**Day 1**	**Unit 2:** Last Weekend Act. 5-9, pg. 13-15, 10-12, pg. 15-16	Workbook Act. 5-7, pg. 11-12, 8,9, pg. 13-14
	Day 2	**Unit 2:** Last Weekend Act. Text Project, pg. 19-21	Workbook Act. 10, pg. 15-16
Week 4	**Day 1**	**Revision**	
	Day 2	**Midterm Exam**	
Week 5	**Day 1**	**Unit 3:** Let's Eat Act. 1-6, pg. 22-24,7, 8, pg. 21-23 reading, pg. 26-28	Workbook Act. 1-5 pg. 17-20, 7-9, pg. 21-24
	Day 2	**Unit 3:** Let's Eat Act. 9, Project, pg. 29-31 **Unit 4:** Your Health Act. 1-4, pg. 32-33	Workbook Activities on page 24. Units 1-3 Test 25-26 Workbook Act. 1-4, pg. 27-28
Week 6	**Day 1**	**Unit 4:** Your Health Act. 5-8, pg. 34-35 Act. 9- reading, pg. 36-38,	Workbook Act. 5-8, pg. 29-30
	Day 2	**Revision** Project	Act. 9-12, pg. 31
Week 7	**Day 1**	**Final Exam**	
	Day 2	**Final Project Presentation**	

Target Vocabulary

Unit 1 - All about us	Unit 2 – Last Weekend	Unit 3 - Let's eat	Unit 4 - Your health

Curly, straight, blond, foot-feet, sad, excited, scared, Angry, feel, drop, spider, swing, laugh, web, catch, different, Bugs, tarantula, break, fast, tall, long, short, big, try	Dish, ride, wear, skirt, sick, mean, garbage, fairy, party, slipper, early, midnight, forget, loose, marry, fit, soccer, take, chore, fun	fry, celery, carrot, peach, bean, bottle, carton, store, cost, lettuce, pear, can, order, hungry, great, refrigerator, glass, bill	Toothache, tired, cold, outside, fever, earache, headache, sore throat, stomachache, hypochondriac, hurt, careful, cut, slide, ambulance, cast, hit, knife, burn, finger, accident, happen, gracious, knee, need, net, tear, fine, pie, advice, healthful, helmet, brush, upset, cough

Target Grammar

Unit 1 - All about us	Unit 2 - Last Weekend	Unit 3 - Let's eat	Unit 4 - Your health
Comparative degree of adjective, Present Simple, Modal Verb – can	Past Simple, Present simple, Verb to be in the Past Simple, irregular and regular verbs	Modal verb – would, present and past simples, use of much, question pronouns, some and any	should and shouldn't, pronouns, present and past simples

Appendix H

Examples of the Learners' Digital Stories

Week	Topic	Links of digital stories
1	Free topic	http://www.youtube.com/watch?v=PtHiZKhaZ-8
2	All about me	http://www.youtube.com/watch?v=QVJ6U7kzUns http://www.youtube.com/watch?v=gUw3cu5Djrg

3	My Day	http://www.youtube.com/watch?v=MMmltp0oOSI
4	My best (last) weekend	http://www.youtube.com/watch?v=e9OrcV6bZNo
5	My meals	http://www.youtube.com/watch?v=hj_nwfys8Ko
6	My favorite meal (Giving recipient)	http://www.youtube.com/watch?v=3Ny7BzreV0A
7	Play Sports to stay healthy. My rules to stay healthy	http://www.youtube.com/watch?v=u441vJrdCRE http://www.youtube.com/watch?v=EP1GCrAgd34