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**The Impact of Using Video Games on Reducing Algerian
EFL Learners' Speaking Anxiety**

Dissertation submitted in partial fulfillments of the requirements for the degree of Master in
didactics of foreign languages

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Declaration

We hereby declare that the dissertation entitled “The Impact of Using Video Games on Reducing Algerian EFL Learners’ Speaking Anxiety” is our own work, and all the sources I have used have been acknowledged by means of references. We also certify that We have not copied or plagiarized the work of other students or researchers partially or fully. In case any material is not documented, we shall be responsible for the consequences.

Signature

Two handwritten signatures in black ink. The first signature is a stylized, cursive script. The second signature is a more complex, circular scribble with a horizontal line through it.

Date

02/09/2021

Dedication

To me, myself, and I.

ISHAQ

This work is dedicated to my parents, who encouraged and supported me since my first year in school until this work has been brought to light. They have been a constant source of inspiration, and they have given me the courage and discipline to reach my goals with enthusiasm and determination.

OMAR

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Abstract

This study aimed at investigating the impact of using video games on reducing Algerian EFL learners' foreign language speaking anxiety (FLSA). In order to conduct the study, the one-group pretest-posttest method was used to obtain quantitative data. In this research, the participants' population was third-year EFL students at the University of Mohamed Seddik Ben Yahia, Jijel. The 26 volunteers were engaged in 10 gaming sessions over five weeks, in which they played “Among Us” and “Deceit”. The instrument applied in this study was a portion of the original foreign language classroom anxiety scale (FLCAS) containing eleven (11) items related to the factor of communicative apprehension as described in Pérez-Paredes and Martínez-Sánchez (2000-2001) model. To have a general and genuine reflection of the impact of using video games on EFL learners' FLSA, a pre-test and post-test took place before and after the treatment to assess the participants' FLSA levels and compare the recorded results. The findings revealed that implementing video games as a learning tool can reduce EFL learners' speaking anxiety. These results confirmed our initial hypothesis.

Keywords: Anxiety, FLCAS, Video Games, Reducing FLSA.

List of Abbreviations, Acronyms, and Symbols

CEGEP: Collège d'Enseignement General Et Professionnel

CO-OP: Co-Operative

EFL: English as a Foreign Language

ESL: English as a Second Language

FLA: Foreign Language Anxiety

FLCAS: Foreign Language Classroom Anxiety Scale

FLSA: Foreign Language Speaking Anxiety

FLSAS: Foreign Language Speaking Anxiety Scale

ICT: Information and Communication Technology

MDA: Mechanics-Dynamics-Aesthetics

MMORPG: Massively Multiplayer Online Role-Playing Game

RPG: Role-Playing Game

RTS: Real-Time Strategy

SEM: Standard Error of the Mean

Df: Degree of Freedom

P: Probability Value

N: Number

t: Student's distribution

μ : Mean

σ : Standard Deviation

#: Number

%: Percentage

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General Introduction

“Use it, or lose it” is an old saying that applies to learning a foreign language. The more we use the language, the faster we acquire it, and once we stop or refrain from using it, we start losing it. When learning a foreign language, the ultimate goal of a typical learner is to become native-like in terms of the four basic language skills: listening, speaking, reading, and writing. A teacher addresses each of these skills by describing activities that enhance the ability to utilize the language to its max potential. However, the speaking skill is regarded as one of the most challenging aspects of language learning. Most Algerian EFL learners find it difficult to verbally express themselves in English because of FLSA, a common emotional reaction in foreign language classrooms. Researchers have found that one-third of foreign language learners experience at least a moderate level of foreign language anxiety (Horwitz, 2001). The latter has a wide range of potential adverse effects on foreign language learning. Therefore, foreign language teachers and scholars have been interested in finding out its leading causes and finding solutions to eradicate this problem. Speaking has been recognized as the most anxiety-provoking. Therefore, this research paper brings to light the impact of using video games on reducing Algerian EFL learners’ speaking anxiety.

1. Background of the Study

Even though FLSA is a common phenomenon in Algerian EFL classrooms and video games have been around since 1958, little research has been conducted to investigate the relationship between the two.

Researchers have now begun to examine the possible sociological and cognitive effects of video games on players. For instance, according to Kongmee et al. (2011), MMORPGs offer informal, safe, and community-based environments, all of which represent situations found in

the real world. The different types of communication employed through gameplay increase player confidence and develop transferable skills between the virtual and real worlds. This communication is more socio-emotional (compliments, messages of solidarity, encouragement) than task associated and more experienced.

Young et al. (2012) states that educators should more closely examine the potential that time spent engaging in online multiplayer video games can have on lowering language anxiety and providing learners with opportunities to practice their English in real-time about subjects that they find compelling. Online multiplayer video games may provide a means of offering learners persistent and authentic environments for second language learning that other methods cannot, and they may serve to lower anxiety and improve motivation among learners.”

Rama et al. (2012) found that MMORPGs like World of Warcraft affected a focus on communicative competence, raising learner motivation, providing ample time to reflect on conversations, and leaving a large margin for error. It is likely that the communal nature of many online games, such as MMORPGs, along with the high degree of interactivity in authentic situations, helps lower player language anxiety and increase a player’s willingness to communicate.

In 2015 Aramnia from the Islamic Azad University of Kerman, Science and Research Branch investigated the effect of games on EFL learners’ anxiety and speaking skills among Iranian students using the quantitative research method. In her study, the student population was 30 intermediate EFL students in a private English language institute located in Kerman, Iran. Her research findings confirmed her hypothesis that using games can positively affect Iranian EFL learners’ anxiety and their speaking skill. She claimed that anxiety means in

control and experimental groups before using games was not significantly different. And EFL learners in control and experimental groups before using games had no significant difference. Therefore, the results revealed that implementing games as a stress-free learning tool has the potentiality of reducing EFL learners' anxiety to improve their speaking skills.

In Québec, Grimshaw and Cardoso (2019) conducted a study with two English as a second language classes in a CEGEP. The study aimed at investigating whether mobile games help in reducing anxiety about learning English. They used interviews to collect data from the participating students. Based on a qualitative analysis of the interviews, Grimshaw and Cardoso concluded that mobile games reduce students' FLSA. They claimed that students felt less anxious when speaking during the game in English. Some students were more comfortable exchanging conversations during the game than when engaging in other speaking tasks in the classroom. "One of the students even said he was able to practice speaking significantly more in 15 minutes of playing the game than in a three-hour class because he felt less anxious and had more opportunities to speak."

The fact that video games are played in an informal setting makes them a safe zone for EFL students to practice speaking English without being anxious. Horowitz (2019) examined the relationship between FLSA and video games where he tested basic and intermediate English-as-a-second-language (ESL) college students in Puerto Rico. Horowitz used two quantitative, Likert-style questionnaires administered online through *SurveyMonkey* to collect data. The results indicated a statistically significant relationship between online multiplayer video games and lowered anxiety about using English among second-language learners.

2. Statement of the Problem

FLSA is not a new problem. Understandably, a person would feel anxious about speaking in a language that is not his mother tongue. Most Algerian EFL students find it challenging to talk in English even though they can write, read, and understand it without much trouble. They find it difficult to express themselves, and they tend to speak as little as possible or do not speak at all inside the classroom. FLSA serves as a barrier between Algerian EFL learners and their language acquisition. It limits the learning process and prevents students from using English orally. Video games offer a suitable solution that teachers need to consider taking advantage of in trying to reduce their students' speaking anxiety, especially in the current situation where most education is taking place online because of the Covid-19 pandemic.

3. Research Question

The current study seeks to answer the following research questions:

1. Are video games helpful in reducing Algerian EFL learners' speaking anxiety?

4. Research Assumption

In light of the aforementioned research question, this investigation addresses the following main assumption:

1. Video Games will positively reduce the speaking anxiety of third-year English students at the University of Mohamed Seddik Ben Yahia.

5. Research Methodology

Because of the nature of the present study, the data collection procedure that the researchers opted for was the one-group pretest-posttest method, for it is believed to be distinctly suitable for conducting this research. The study sample consisted of twenty-six (26)

third-year students of English at the University of Mohamed Seddik Ben Yahia. To collect the required data for this research, the researchers used 11 items from the FLCAS to measure students' level of FLSA before and after ten (10) sessions of playing "Among Us" and "Deceit," 2 sessions per week, for a total period of 5 weeks. The scale uses a five-point Likert scale, ranging from "Strongly Agree" to "Strongly disagree." It measures students' self-reports regarding speaking anxiety by adding up the ratings on the 11 items. The items chosen for this research are related to communication apprehension according to Pérez-Paredes and Martnez-Sánchez's (2000-2001) analysis of the FLCAS.

6. Significance of the Study

The findings of this case study could shed light on how the implementation of video games in EFL classrooms helps in reducing FLSA. It could provide learners with opportunities to practice the target language in meaningful interactions in context. It could also provide instructors with a new tool that can be implemented in the language curriculum.

7. Organization of the Dissertation

The current study is divided into two main chapters. The first chapter, in two sections, represents a theoretical framework. The first section provides a comprehensive overview of anxiety in general and FLSA in particular. In contrast, the second one is devoted to video games and their use in education as it sheds light on why we should include video games in the learning process and how we can do it. On the other hand, the second chapter is concerned with the practical framework of the overall study. It consists of two sections devoted to the methodology of research and data analysis and results, respectively. The chapter ends by acknowledging the limitations of the study and suggesting some pedagogical recommendations and suggestions for teachers and further researchers.

Chapter One: Literature Review

The first chapter of the literature review, in two sections, is devoted exclusively to handling the significant theoretical aspects related to FLSA and the use of video games as a means to overcome this phenomenon. The first section deals with FLSA. Even though the present research focuses entirely on FLSA, it is essential to understand the general concept of anxiety and tackle some of its aspects. Thus, the first section begins by stating definitions of anxiety from different standpoints, together with its prominent types, namely trait anxiety, state anxiety, and situation-specific anxiety. Additionally, it defines FLSA. Afterward, this section discusses the sources of FLSA as well as its impact on the learning process. Subsequently, it discusses the strategies scholars recommend to overcome FLSA in the classroom.

On the other hand, the second section discusses the integration of video games in foreign language teaching. It introduces the definition of video games provided by different scholars. Then it sheds light on the main features of video games. This section also covers the structure of video games and their genres. Next, it classifies both the advantages and disadvantages of video games, according to scholars. Finally, it delves into the use of video games in language teaching, their educational potential, and how they can be introduced in the classroom.

Section One: Foreign Language Speaking Anxiety

Introduction

This section tackles different anxiety definitions, the main types of anxiety, along its significant characteristics. It then focuses on Foreign language anxiety, along with its components. Then, it illustrates some methods used to measure foreign language anxiety. Finally, this section ends with highlighting the importance of speaking skills.

1. Definition of Anxiety

Anxiety is an emotional state characterized by discomfort, a worried mind, and physical changes like sweaty hands and high blood pressure. People with anxiety often make unfavorable guesses about possible future situations, which can cause intrusive thoughts, and fear. Anxiety is completely normal and something that all human beings experience from time to time when faced with difficult or threatening situations. The term 'anxiety' is often used to cover a broad range of backgrounds and is linked with emotions such as fear and worry. Thus, anxiety is a complex phenomenon with multiple dimensions (Young, 1991: as cited in Onwuegbuzie et al., 1999, p. 217). In psychology, Freud (1933) defines anxiety as an unpleasant condition similar to nervousness or dread (as cited in Cook, 2006, p. 28).

Importantly, in Merriam-Webster dictionary (1993), the word "anxious" is defined as a derivative from the Latin word "angere," which means strangle or distress. In Oxford Advanced Learners Dictionary (2000), anxiety is defined as the state of nervousness and worry that something terrible is about to happen (p. 48). Mussen, Canger, and Kagan (1974) argued that anxiety is not a pathological condition in itself but rather an ordinary and necessary physiological and mental preparation for danger. They added that anxiety is essential for the survival of the individual under certain circumstances because failure to apprehend danger and

prepare for it may have disastrous results (p. 387).

Based on the definitions above, it can be said that 'fear' and 'anxiety' are often used interchangeably. Anxiety itself can be of help because it forces you to prepare for events in advance. However, it can become so severe and intense at times that it becomes a crippling factor to daily routine and life as a whole.

2. Types of Anxiety

General anxiety's aspects and types must be discussed to understand foreign language anxiety in a broader scope. Psychologically, anxiety has been categorized into three types: trait anxiety, state anxiety, and situation-specific anxiety (Spielberger, 1983, p. 1).

2.1. Trait Anxiety

Scovel (1978) argued that trait anxiety occurs when a person has a permanent intent to be anxious. It is one of a person's general personality traits, and it does not change in different situations (p. 137). Sieber, O'Neil, and Tobias (1977) believe that trait anxiety is the stable personality differences in anxiety proneness (p. 99). That is to say, this type of anxiety remains steady because it is a feature of an individual's personality. According to Eysenck (1979), trait anxiety can damage the cognitive function and create interruptions in memory (p. 365).

Zeidner (1983, p. 83) states that trait anxiety is the stable disposition to react to anxiety across contexts. According to him (1998, p. 293), trait anxiety is when the individual is predisposed to having anxious experiences or engage in anxiety-provoking behaviors in a stressful situation. He adds that trait anxiety is a relatively stable condition, best conceived as a latent disposition or probability of responding with elevated state anxiety levels under stress. It was recently shown that trait anxiety serves as a multidimensional construct that interacts with specific types of situational stress to influence the level of state anxiety experienced.

2.2.State Anxiety

Spielberger (1972) believes that state anxiety is the reaction of emotions or response patterns to an individual who perceives a situation as personally dangerous or threatening, regardless of whether the objective danger is present or absent (p. 489). Moreover, Young (1998) defines state anxiety as the feeling of nervousness that can change over time and increases in severity. Test anxiety illustrates state anxiety where a test causes students to experience anxiety, but this feeling can change over time. The emotions, cognition, and behaviors are affected by state anxiety (as cited in Oteir & Al-Otaibi, 2019, p. 310).

Current research, according to Zeidner (1998, p. 293), differentiates between state anxiety, which refers to an individual's actual anxiety experiences in a given situation, and trait anxiety, which he defines as an individual's predisposition to have anxious experiences or engage in anxiety-provoking behaviors in a stressful situation. According to Spielberger and Zeidner (1983, p. 83), state anxiety is a transient emotional state of tension and arousal caused by the interplay between a person's characteristics and the current situation. Spielberger adds that state anxiety refers to the specific level of anxiety an individual experiences in a particular evaluative or test situation, like a vital college exam.

2.3.The Situation-specific Anxiety

According to Spielberger (1983, p. 1), this type of anxiety occurs at a particular time due to a specific situation. Hence, MacIntyre and Gardner (1991) believed that situation-specific anxiety is a distinct type that invariably arises over time in certain conditions. It is a unique type of anxiety that occurs consistently over time within a given situation. It is closely linked to specific conditions in which one situation is different from another, but it is consistent over time (pp. 87-91). Two examples of this type of anxiety are Language Anxiety and Math anxiety.

According to Oxford and Ehrman (1992, pp. 194-195), learning a foreign language is connected to situation-specific anxiety rather than trait anxiety since trait anxiety is a stable trait that causes worry in all situations. Still, situation-specific anxiety occurs only in specific cases. Similarly, MacIntyre and Gardner (1991, p. 92) argue that the best approach when dealing with foreign language anxiety is the situation-specific perspective because language learners experience anxiety in different aspects of a language classroom.

3. Foreign Language Speaking Anxiety

Learning a foreign language entails both cognitive and emotional characteristics on the side of the students. Anxiety is one of the most commonly encountered issues in the dynamic characteristics area of the language acquisition process. According to Horwitz et al. (1986), foreign language anxiety is a complex of self-perceptions, beliefs, attitudes, and actions connected to classroom language acquisition originating from the uniqueness of language learning processes. Foreign language anxiety impacts learners negatively as it slows language acquisition and prevents them from going further in their learning process (p. 128).

Young (1990, pp. 540-541) argued that FLSA impairs the learning process. He emphasized that speaking anxiety produces an inhibitory effect on the process of learning foreign languages. Young was one of the first to notice and identify a general approach regarding the definition of speaking anxiety. According to her, the anxiety that arises in the language learning process appears as a unique experience. She states that: “Anxieties associated with classroom procedures center primarily on having to speak in the target language in front of a group” (Young, 1991, p. 429). From this point of view, FLSA can be defined as the adverse emotional reaction that occurs while studying or using a foreign language.

Gardner and MacIntyre (1991) reported that FLSA is one of the most commonly

experienced, negatively influential factors that hinder successful language acquisition. They stated that “The groups who wrote about anxiety tended to perceive themselves as less proficient than the group who described a confidence building experience, and the most anxiety-provoking experience reported was almost always related to speaking” (cited in Gardner & MacIntyre 1993, p. 6).

4. The Sources of Foreign Language Speaking Anxiety

Several scholars investigated the factors behind foreign language anxiety in general and FLSA in particular. According to Horwitz, Horwitz, and Cope (1986), students with a high level of anxiety in learning foreign languages usually have problems with activities of oral expression and comprehension (‘speaking and listening respectively), with the discrimination of sounds and grammar; and finally, with vocabulary memorization. Similarly, they are unwilling to speak up if they feel that they are being evaluated (p. 126). From a more social perspective, Horwitz, Horwitz, and Cope (1986) believe that foreign language anxiety is associated with anxiety behaviors such as: communication apprehension, test anxiety, fear of negative evaluation. The first behavior is a type of shyness characterized by fear of communicating with people. The second refers to a kind of behavior derived from the fear of failure. Finally, we find fear of negative evaluation, where the individual avoids using the foreign language in fear of being criticized (p. 127). However, many scholars found different factors related to FLSA in particular. According to Aydin (2008), FLSA may have other sources, including teacher-student interaction, teachers' beliefs about language learning, and students' beliefs about language learning, testing, and classroom teaching techniques (pp. 107-112).

Liu (2006, pp. 12-13) listed six other sources of FLSA:

1. The lack of practice.

2. Limited vocabulary knowledge.
3. Low level of proficiency.
4. Fear of negative evaluation.
5. Imperfect grammar.
6. Low-confidence.

Balemir (2009, p. 68) stated that “the sources of speaking anxiety were identified as linguistic difficulties, teaching and testing procedures, personal reasons, and fear of negative evaluation, as a result of the analysis of the interview responses in this EFL context.”

Moreover, Mak (2011, p. 206) revealed that FLSA is mainly the result of five factors:

1. fear of negative evaluation.
2. Unease when talking to native speakers.
3. Negative perceptions about the English classroom.
4. Negative self-evaluation.
5. Fear of personal failure.

In addition, Hashemi and Abbasi (2013, p. 641) identified two other factors:

1. Adopting or Acquiring Native-like pronunciation.
2. Formal language classroom setting.

5. The Impact of Foreign Language Anxiety on the Learning Process

In the 1970s-1980s, the American psychologist Stephen Krashen put forward the "affective filter hypothesis." The student's ability to assimilate a language is limited if he experiences negative emotions, such as anxiety, fear, or shame. This hypothesis dealt a severe blow to the traditional school and to those strict teachers who believed that the student should feel a shiver right in front of the teacher; otherwise, there would be no result. With this

hypothesis, Krashen (1982, pp. 30-31) explains why the same student seems to learn differently with different teachers or in other contexts. The affective filter can be viewed as a sort of defense that is lowered or raised: the emotional barrier rises in situations of hostility and danger, distrust or lack of harmony towards the teacher. In cases of balance, relaxation, and affection, vice versa, the filter allows the passage of input and the favorable emotional situation facilitates memorization.

Although some researchers argue that foreign language anxiety has a positive impact, most studies show its negative correlation with performance. The negative form of language anxiety is sometimes referred to as "debilitating anxiety." It harms students in many ways, indirectly through nervousness and lack of self-confidence and directly through open avoidance of language use. Anxiety can cause a drop in motivation in learning a foreign language (Landström, 2017, p. 1). Gardner and MacIntyre (1993, p. 159) stated that anxiety is the most potent barrier to gaining fluency in a foreign language.

The relationship between language anxiety and language learning outcomes is not easy to define. Young (1990) explained that sometimes language anxiety negatively affects one's language competence. Additionally, a high level of language anxiety may be the result of language learning problems rather than their cause (p. 540).

6. Strategies to Reduce Foreign Language Speaking Anxiety

Several methods have been used to reduce FLSA and create a less stressful foreign language learning environment. Horwitz et al. (1986, p. 131) argued that teachers have two options to deal with anxious students:

1. They can help them learn to cope with the existing anxiety-provoking situation.
2. They can make the learning context less stressful.

Similarly, Young (1990, pp. 550-551) suggested some techniques to reduce FLSA in the classroom, such as:

1. Providing a support group for anxious learners.
2. Using more pair or groupwork.
3. Playing language games.
4. Role-playing activities.
5. Encouraging the positive attributes of the EFL teacher such as friendliness, patience, and a sense of humor.

Price (1991, pp. 107-108) argued that FLSA could be reduced through the positive behavior of teachers with their students. She suggested that teachers should not act like an authority inside the classroom, but rather like a friend helping their students and enabling them to perform freely. Furthermore, Anxious students may feel safer and less insecure in a supportive classroom. Gregersen and MacIntyre (2014, p. 585) claimed that students are more likely to perform without having FLSA problems in a supportive and friendly place, where competitiveness and self-comparisons are minimum. Teachers can prevent language anxiety from becoming a significant problem by assisting their students in reducing it.

Section Two: Video Games

Introduction

Video Games are a technological medium that, in recent decades, has gained more and more success and diffusion, both among children and adults. In this section, a definition of video games is initially given. Moreover, the elements that characterize and make them a unique technological medium are briefly described. Finally, light is set on the advantages and disadvantages of video games at a cognitive, educational, physical, and social level.

1. Definition of Video Games

Giving a precise and exhaustive definition of video games is a complicated process. In simple words, a video game is a game plus technology, and a formal definition of games is that of Suits (1967), who states that:

To play a game is to engage in an activity directed toward bringing about a specific state of affairs, using only means permitted by specific rules, where the means permitted by the rules are more limited in scope than they would be in the absence of the rules, and where the sole reason for accepting such limitation is to make possible such activity. (p. 156)

From a purely terminological point of view, Platania (2017) defines video games as nothing more than a transformation of games, managed in an electronic or digital key, through the presence of a screen. Esposito (2005, p. 2) writes that "a videogame is a game which we play thanks to an audiovisual apparatus and which can be based on a story."

2. Main Features of Video Games

In 1982, Chris Crawford, in his book "The Art of Computer Game Design," based on the peculiarities of electronic entertainment that was emerging in those years, highlights four characteristics common to all video games (Egenfeldt-Nielsen et al. 2008, p. 33):

1. Representation: refers to the fact that a game "subjectively represents a subset of reality. Games model external situations, but they are not actually part of these situations.." (Egenfeldt-Nielsen et al. 2008, p. 33).
2. Interaction: it is the characteristic underlying the pleasure offered by games. "The player must be able to influence the world of the game and get meaningful responses to his actions so that he feels engaged with the game." (Egenfeldt-Nielsen et al., 2008, p. 33).
3. Conflict: the main objective of the game is blocked by obstacles. "Conflict can be direct or indirect, violent or nonviolent, but it is always present in every game." (Egenfeldt-Nielsen et al., 2008, p. 33).
4. Security: even if a conflict is lost within the game, you are sure that this will not have the same consequences in real life (Egenfeldt-Nielsen et al., 2008, p. 33).

Other important categories that contribute to characterize video games are identified by Malone, T., and Lepper (1987, p. 249):

1. Challenge: in a video game, there are levels of varying difficulty. The presence of the challenge satisfies self-realization, which determines the drive to overcome oneself and reach higher levels.
2. Curiosity: it is a vital component of attraction. Sensorial curiosity is aroused by characteristics that pleasantly stimulate the senses, while the desire produces keen interest for completion in the mental structures of the subject.
3. Control: the player perceives how his actions and decisions have significant consequences on the progress of the video game;
4. Elements of fantasy: They satisfy the player's emotional needs, while cooperation and competition are interpersonal motivations.

5. Recognition: it concerns the player's need for approval and performance. The videogame awards the player by offering him the score achieved.

Among these characteristics, the one that most of all differentiates video games from traditional media is their interactivity. Lombardi (2013, p. 54) claims that video games, unlike movies, do not follow a fixed and immutable pattern but vary according to the inputs transmitted by the player. The term interactivity appeared in the technological field as early as the 1970s, but there was a different conception of this phenomenon. Cosenza (2009, p. 33) states that while at that time interactivity underlined, in the exchange of information between system and user, the role of the user, nowadays, when we talk about interactivity, we think instead of the fact that it is the system that reacts, to respond in real-time to user inputs. In particular, he declares that the interaction between a human and a machine is very similar to the exchange between two human beings; this implies a high level of interactivity. In the case of video games, the player feels like the protagonist.

3. The Structure of Video Games

Between 2001 and 2004, Hunicke, LeBlanc, and Zubek developed the so-called "MDA Framework," according to which the structure of video games is divided into three different dimensions:

- a. Mechanics: they are the basic rules and code of the game. According to Egenfeldt-Nielsen (2008, p. 51), mechanics refers to the vast amount of information to construct the game's world. In a similar vein, Rogers (2010, p. 69) believes that the mechanics of a video game are objects that create gameplay when the player interacts with them. They can be jumped on, activated with a button press, or pushed around.

- b. Dynamics: The gameplay or simply “how it feels to play a game.” (Egenfeldt-Nielsen, 2008, p. 126).
- c. Aesthetics: includes all the positive emotions that arise in the player while he plays. Hunicke, LeBlanc, and Zubek (2004) list the elements that attract us to games: sensation, fantasy, narrative, challenge, fellowship, discovery, expression, submission. (p. 2)

The last dimension that of aesthetics is one of the most complex because "By “aesthetics,” we are referring to all aspects of video games that are experienced by the player, whether directly (such as audio and graphics) or indirectly (such as rules)." (Egenfeldt-Nielsen, 2008, p. 97). Notably, the elements that are part of the aesthetic of video games include:

- a. Rules: "these defined limitations determine what you can and cannot do, and which actions or events increase or decrease the player's score." (Egenfeldt-Nielsen, 2008, p. 97). The rules are the characteristic element of the video game, differentiating it from other media such as movies. Taking up the concepts expressed by Jesper Juuls, Ang (2006) states that a video game is an activity based on formally defined rules, and it contains an evaluation of the players' efforts. The game rules contribute to complex and exciting gameplay. (p. 307).
- b. Geography and representation: "video game's geography "physically" blocks specific actions (you generally cannot pass through walls) while allowing others (you may be able to jump from one platform to another." (Egenfeldt-Nielsen, 2008, p. 97). The game world is presented to the player through graphics and sound. By choosing the graphic style, game designers decide "how the game should express itself visually" (Egenfeldt-Nielsen, 2008, p. 122), while music, apart from sound effects

such as characters' voices or ambient sounds, "is usually used to add to the atmosphere of the game" (Egenfeldt-Nielsen, 2008, p. 125).

- c. The number of players: obviously, there is a difference between single-player and multiplayer games. "In the former type, computer-controlled opponents must respond entertainingly to the player's actions, while in the latter type, designers must ensure level playing fields, efficient communication features." (Egenfeldt-Nielsen, 2008, p. 97).

4. Video Games Classification: Genres

Just as the determination of the narrative nature of video games has been a source of discussions and debates, the establishment of an adequate classification has also raised doubts. The theorist Wolf has defined the different genres of video games based solely on their interactivity. He considers it an essential part of every game's structure and a more appropriate way of examining and defining video game genres. (Egenfeldt-Nielsen et al., 2008, p. 40)

Taking only one variable into account to establish a classification is not enough; Lombardi then takes up Crawford's idea, according to which a good taxonomy of video games must first pay attention to the underlying mechanics, distinguishing types and genres based on the characteristics of the game design. It is still possible today to talk about different video game models, which vary according to the change of the target audience, the technological structure, the gameplay (Lombardi, 2013, p. 98).

First of all, video games should be divided into two macro-categories: arcade and simulation. An arcade video game follows the operating modes initially designed for cabinets intended for rapid, immediate use and with short-term game objectives; in simulation games, realism is the main feature. There is usually also a strong narrative component (Lombardi, 2013,

p. 98).

The primary genre that characterizes arcade video games is that of action, within which you can find some subsets:

- a.** Beat them up: the player impersonates a warrior who must defeat his opponents in single or group fights. The user must assert his skill as a player by pressing a combination of keys and performing specific movements to stay alive until reaching a final level or in the progression of difficulty (Lombardi, 2013, p. 99).
- b.** Shooter: the dynamics are similar to those of fighting games, but the fights take place through shootings or, in general, with the use of ranged weapons.
- c.** Platform: are video games in which the mechanics underlying the software imply, for the user, the crossing - usually hampered by impediments or opponents - of levels consisting of platforms, often arranged on several game planes, horizontally and vertically (Lombardi, 2013, p. 99). On this genre, Rogers (2010) adds that " shooting and fighting may also be involved." (p. 9).

As for simulation video games, the characterizing genre is that of adventure. Initially, these types of games were born as text adventures, that is, narratives requiring textual input from the user" (Lombardi, 2013, p. 100). These games have evolved: adventure games focus on puzzle solving, item collection, and inventory management. (Rogers, 2010, p. 10) and have a vibrant narrative plan. Among the subsets of this genus, we find:

- a.** Point of View: Described by Rogers as "a subgenre that has players use a mouse or cursor to click to uncover clues and navigate around." (Rogers, 2010, p. 10). They have a predetermined narration and ending.

- b. Role-playing game (RPG): the player controls one or more heroes; the goal is to "fulfill the missions entrusted to them and earn an illusory reputation and ever greater power in the game" (Lombardi, 2013, p. 100).
- c. MMORPG: role-playing games that are played on the net "that can support hundreds of players together in one environment. MMORPGs are known for player vs. player gameplay, repetitive gameplay or 'grinding,' and group battles or 'raids.'" (Rogers, 2010, p. 10).
- d. Life simulators: usually, these games are "hybridized with the strategic genre, in which the player must manage existences of real digital alter-egos in human or animal form, conditioning their present and future choices and decreeing their luck or misfortune in life" (Lombardi, 2013, p. 101).

Another genre that belongs to the category of simulation games is strategy games, which require "good skills in planning and game management" (Lombardi, 2013, p. 102). These are divided into Real-Time Strategy (RTS): Rogers (2010, p. 11) writes that "four X's": expansion, exploration, exploitation, and extermination. "; turn-based strategy: "the slower pace of these games allows players time to think, providing more opportunity for a strategy to be employed."

5. The Advantages and Disadvantages of Video Games

Since interactivity is the distinctive feature of video games, it can be said that they offer the player an immersive and engaging experience, during which the subject uses all his skills and resources to be successful in the game and to enjoy it fully. Many studies and research have proven that video games can positively affect the player's cognitive abilities (particularly attention and memory), social and emotional aspects, and physical and mental health. These beneficial effects were found especially after using action video games. According to Bavelier

et al. (2012, p. 393), “video games include complex visual scenes, an enthralling feel, and a wide variety of goals at different timescales.” Other video games, such as puzzle games, can help improve problem-solving skills and the speed with which the person makes decisions.

Using video games with little awareness and for excessively long periods can lead to unwanted effects, some of them even permanent and very serious. These adverse effects are identified on a psychological, social, physical, and cognitive level. Many pieces of research have shown how violent video games such as shooters lead to an increase in aggressive behavior in the same player and more significant desensitization towards violence in general. On a cognitive level, excessive use of video games has been associated with attention deficits in gamers. On a physical level, there have been more significant problems with eyesight and problems with the joints of the hands. Excessive use of video games can lead to addiction, often compared to that caused by gambling and therefore recognized on a pathological level (Peracchia et al., 2018, pp. 311- 313).

Table 1. *Advantages and Disadvantages of video games:*

ADVANTAGES	DISADVANTAGES
<p>They increase the capacity of selective attention (Feng & Spense, 2014), (Gentile, 2011), (Bavelier et al., 2012), (Fenge & Spense, 2008), (Aliyari et al., 2015)</p>	<p>They incite violence (Anderson, 2003), (Gentile & Walsh, 2001), (Swift & Padilla, 2012), (La Barbera et al., 2007), (Monke, 2009), (Dill & Dill, 1998), (Espejo, 2002).</p>
<p>They help to solve attention deficit (Schmidt & Vanderwater, 2008), (Cardoso & Bavelier, 2014), (Dye et al., 2009), (Karle et al., 2010)</p>	<p>They cause attention deficit (Ferguson, 2010), (Bailey et al., 2009), (Barlett et al., 2009), (Gentile et al., 2012), (Chan & Rabinowitz, 2006).</p>

<p>Short-term memory performance improves (Colzato et al., 2013), (Feng & Spense, 2008), (Blacker & Curby, 2014), (Clemenson & Stark, 2015), (Aliyari et al., 2015)</p>	<p>They create pathological addiction (La Barbera et al., 2007), (Gentile, 2009), (Griffiths & Meredith, 2009), (Brian Ng et al., 2005).</p>
<p>They favor multitasking and problem solving (Curtis & Lawson, 2002), (Granic et al., 2014), (Gunawardhana, 2015), (Steinberg, 2015), (Chiappe et al., 2013), (Dupon et al., 2012),</p>	<p>They cause visual disturbances and hallucinations (Akinbinu & Mashalla, 2014), (Rosenfield, 2016), (La Barbera et al., 2007), (Griffiths & Ortiz de Gortari, 2015).</p>
<p>They are motivating and a source of positive emotions (Ryan, 2006), (Cangià, 2006), (Granic et al., 2014), (Egenfeldt-Nielsen et al., 2008), (Ritterfeld & Weber, 2005),</p>	
<p>They favor the development of social skills (Eklund, 2012), (Uz & Cagiltay, 2015), (Granic et al., 2014), (Torsani, 2010), (Bazzanella & Alliata, 2006)</p>	

As table 1 suggests, video games have advantages and disadvantages; The upside is that they can teach knowledge and improve physical and mental skills. The downside is that they can be aggressive and make you spend too much time playing them.

6. Video Games in Language Teaching

Chatfield (2010) believes that there will inevitably come a time when no one alive remembers a time before video games existed. Within a modern school, that time has already arrived. Every single pupil was born into a world where video games were simply a fact of life, and it's in this environment and among these pupils that the severe potential of video games suddenly starts to seem less a novel possibility than a creeping inevitability. (as cited in Ulicsack, 2010, p. 10).

Lombardi (2013) instead raises the problem of how to introduce video games in language teaching. He states that video games can only be used as a tool in a severe language teaching project with an animated background. (p. 113).

a. Why use video games in language teaching

Several arguments and elements demonstrate the effectiveness of video games in educational contexts. Plass et al. (2015, pp. 263-264) identified six elements: Game Mechanics, Visual Aesthetic Design, Narrative Design, Incentive System, Musical Score, and Content and Skills.

Rebetez and Betrancourt (2007, p. 4) also identify three other main advantages of playing video games in teaching:

1. Development of skills and abilities: deductive reasoning or memorization and more contextual skills such as cooperation and communication.
2. A stimulus for learning: " the game sessions can be used as a starting point for other activities such as creative writing or charts analysis." (Rebetez & Betrancourt, 2007, p. 4).

3. Content related learning: even if it is marginal, there is the possibility that video games realize this type of learning. " content in the game can be presented in a very different way as it usually is in the classroom. Simulations remain the games with the greatest potential to directly teach content." (Rebetez & Betrancourt, 2007, p. 4).

b. The educational potential of video games

Many are still skeptical about the use of video games in teaching, but the latter has great educational potential. James Paul Gee argues that "the power of video games resides not just in their present instantiations but in the promises the technologies by which they are made hold out for the future." (Gee, 2005, p. 6). He identifies some learning principles inherent in video games. If applied to language teaching contexts, they can make the environment more effective and more enjoyable: co-design, personalization, identity, pleasantly frustrating, competence cycle, skills as strategies, meaning as a representation of action.

c. How to introduce video games in the classroom

The current gaming video market is enormous. There is a great variety of commercial video games that, according to Groff et al. (2010, p. 18), the opportunity to use them in various educational ways - depends on the nature of the game and the strategy for its use in the classroom. When planning the introduction of a video game in the teaching activity, some factors must be kept in mind, which concern both the video game itself and the environment in which it is introduced:

1. Authentic challenges: according to Williamson et al. (2005, p. 10)., games played in school need to be sufficiently challenging to stretch students' abilities and need to be rooted in some firm reality, or present strong internal consistency and logic such that actions are connected with logical outcomes.

2. Cultural adequacy: Using a computer game in a school context is, of course, fraught with all sorts of culturally specific implications. (Williamson et al., 2005, p. 10). To understand if a game is adequate, a teacher must rely on their understanding of their students' sensitivities, dispositions, and aims of their intended scheme of work. (Williamson et al., 2005, p. 10).
3. Organization of the course: according to Whitton (2010), concerning this aspect, it is necessary to consider "how a course is currently organized, when teaching takes place and how it is timetabled. Consider also how long a course takes to run in total and how much of that time is available for using the game." (p. 79).
4. Technology: undoubtedly, "Also crucial to consider is available access to technology, both for teachers and students, and the types of hardware and software that you want to use. It is important to ensure that access is equitable for all students and to consider whether all machines are capable of running the software you plan to use."(Whitton, 2010, p. 79).
5. Establish expectations: Understanding the expectations for students is the key to tolerance towards the video game and its success. "It is important to provide a clear rationale for why the game is being used – and why it is the best option for learning in this context." (Whitton, 2010, p. 81).
6. Learning to play: "It is also important to consider how long it might take students to learn how to play any computer game as well as actually undertaking learning through playing the game." (Whitton, 2010, p. 82).

As for the integration, on a practical level of video games in the classroom, Whitton (2010, pp. 85-87) identifies six ways that a teacher can use:

1. Single-game session: The least intrusive way to familiarize students with the Digital Game-Based Learning approach.
2. Multiple game sessions: in this case, the game is used in two or more lessons.
3. Optional game activity: according to this alternative, the video game is offered as an optional activity.
4. Integrated game: in this case, the video game allows reorganizing how the course carries out learning.
5. Online game: this option includes using an entirely online game as part of a blended course or entirely online. "In this case, the students do not need to meet each other face to face at all but play entirely online either synchronously or independently." (Whitton, 2010, p. 87).
6. Mixed reality game: this type of game "uses elements of the online environment as well as the face-to-face, often integrating mobile technologies such as mobile phones or other handheld devices." (Whitton, 2010, p. 87).

There are video games designed to be used in the classroom and video games that can be adapted to educational use: choosing the most suitable one requires knowledge and appropriate planning, appropriate to the age and educational objectives. Using video games in teaching would be a huge step forward, even if the real leap in quality lies in the design and creation of a video game.

Chapter Two: Fieldwork

Introduction

While the previous chapter cast light on the primary literature of the current research topic, this second chapter exclusively pertains to the practical framework of the overall study. It aims at investigating the impact of using video games on reducing Algerian EFL learners' FLSA. Hence, the present chapter comprises two main sections: the research methodology and the data analysis and discussion. The first section touches upon the description of the research methodology. It begins with shedding light on the research assumptions. Then, it mentions the data gathering instruments used in the present research.

Furthermore, it switches to the description and administration of the research tools used for data gathering. In the second section, the results yielded from the data instruments are displayed and, therefore, thoroughly analyzed. Then the discussion of the results obtained from the interpreted data is to follow. Hence, it also discusses the significant findings of this investigation in light of the research assumptions. Lastly, the chapter brings to light the limitations of the research study and provides some pedagogical recommendations for future research.

Section One: Research Methodology

1. Research Assumption

The current research addresses the following main assumption:

- Video Games will positively reduce the speaking anxiety of third-year English students at the University of Mohamed Seddik Ben Yahia.

2. Population and Sampling

The population targeted by this study is third-year students enrolled at the department of English at Mohammed Seddik Ben Yahia University, Jijel. Twenty-six (26) students volunteered to be the sample of this research. The selection of the population level is based on the fact that third-year students are familiar with oral expression and are of an intermediate level of English.

3. Data Gathering Instruments

Because of the nature of the present study, the data collection procedure that we adopted was the one-group pretest-posttest experimental design. The FLSA levels of the participants were compared before and after the use of video games. A single subsequently adapted instrument was used to carry out the study; it is a portion of the original FLCAS by Horwitz, Horwitz, and Cope (1986) containing the 11 items from the communication apprehension factor.

This scale attempts to determine the presence of anxiety in skills such as comprehension and oral expression and speaking anxiety in foreign language learning. In this research design, the quantitative data included responses in the FLCAS collected in 2 phases.

First, 26 students were thoroughly informed about the study and the scale. Then, they responded to the 11 items before the application of video games (e.g. pre-test) to examine their FLSA levels. Second, respondents were invited to participate in the experiment. They were

introduced to some major CO-OP video games, namely, “Among Us” and “Deceit.” They watched gameplay videos of these games to get insight on how they are supposed to play, and to let them choose which game they think best fits them.

After that, participants had ten (10) gaming sessions in which they talked using a Discord voice channel to communicate in English. The reason behind choosing these games is that both of them rely on communication among players to complete in-game tasks. The players are required to talk at the end of game rounds and try to eliminate imposters by arguing why they believe someone is a villain. The nature of these games allows students to speak in English at the end of every stage and have natural debates. The participants used a discord voice channel to communicate while playing.

Our experiment lasted five weeks, two gaming sessions per week, where each session took around 2 hours. The students completed the same scale at the end of the experiment (e.g., post-test) to see if there was a difference in the level of learners' speaking anxiety since the first administration of the 11 FLCAS items and, therefore, after using video games.

Our goal was to see if a decrease in learners' scores had occurred (lower scores on the FLCAS mean their anxiety level is reduced). A comparison between scores before and after the treatment would help us understand the effectiveness of the intervention and know the impact of using video games on reducing students' FLSA.

Table 2: Research Design

Sample	Before	Treatment	After
Experimental group	Scores	T	Scores

4. Description of the Research Tools

4.1. Description of the Questionnaire (FLCAS)

The questionnaire used allows us to investigate and measure the level of speaking anxiety of the respondents. It consists of 11 items on the 5-level Likert-scale; the possible answers are five and are expressed from the highest to the lowest degree of conformity. An example of this would be the following statement: "I never feel quite sure of myself when I am speaking in my foreign language class." The possible responses to the statement are: I strongly agree=5, I agree=4, I neither agree nor disagree=3, I disagree=2, and I strongly disagree=1.

The original FLCAS is a 33-item Likert-scale survey, each with five response modes, widely used in research studies; it investigates participants' communicative apprehension, test anxiety, and fear of negative evaluation and focuses on speaking in a school context. It has been translated and used in several languages, including Spanish and Chinese.

FLCAS is based on the analysis of potential sources of anxiety in a language class. It integrates three related anxieties (communicative apprehension, test anxiety, and fear of negative evaluation). It was built based on students' self-assessments, their clinical experiences, and evidence gleaned from reviews of similar instruments by Horwitz, E. K., Horwitz, M. B., & Cope, J. In 1986.

The score range is 33 to 165, with higher scores indicating higher levels of foreign language anxiety. Descriptive analysis was performed to calculate the mean and standard deviation of each element and each type of anxiety to obtain the general anxiety situation of the students in the classroom.

Horwitz and his colleagues made a unique contribution to detecting foreign language anxiety by developing this systematic tool. Horwitz et al. (1986) suggest that many students experience significant foreign language anxiety in response to at least some aspects of foreign

language learning. This concept has been examined and used by several studies on language anxiety (Aida, 1994, Cheng, 1998, Liu, 2006; Saito, Garza & Horwitz, 1999; Yan, 1998).

The FLCAS has been used extensively in studies for the past 35 years and has facilitated a tremendous development in classroom anxiety research in foreign languages. The validity of the FLCAS structure was determined using Cronbach's alpha reliability estimates and principal component factor analysis (Matsuda and Gobel, 2004, p. 26). Factor structure of the FLCAS - in the original study, Horwitz et al. (1986) reported a Cronbach alpha of 0.93 (N = 108) and a test-retest correlation of 0.83 (N = 78). Studies related to the criterion showed that FLCAS scores had the highest correlation with test anxiety, 0.58. The FLCAS was administered to 328 Japanese learners at a Malaysian university.

Pérez-Paredes and Martnez-Sánchez (2000-2001) found that the FLCAS contains four factors based on the Principal Component Analysis with Varimax Rotation: Communication apprehension was factor one, which comprised elements related to worry, shyness, and bodily responses to speaking in a foreign language. # 1, 3, 9, 12, 13, 18, 20, 24, 27, 31, 33 were the items that belonged to this factor. (as cited in Yaikhong & Usaha 2012, p. 24). These factors (see Appendix A for details), according to Pérez-Paredes and Martnez-Sánchez (2001, p. 11), are “moulded around the speaking component and its interaction with individuals’ cognitions and interpretations of events both inside and outside the language classroom.”

5. Administration of the Questionnaire

It is necessary to mention that the administration of the questionnaire was done on an online platform because of the outbreak of COVID-19 that intervened during the conduction of the present research. The lockdown enforced by the government on the country’s states and universities urged the researchers to conduct the study online.

Since the present study is only concerned with FLSA, it is essential to note that the analyzed FLCAS items are items # 1, 3, 9, 12, 13, 18, 20, 24, 27, 31, 33. The questionnaire was administered online to twenty-six (26) EFL third-year students at Mohammed Seddik Ben Yahia University, Jijel. Also, it is worth noting that the rationale behind choosing third-year students emanates from the fact that they were of an intermediate level in English. Hence, the reasonable ground behind their selection lies in their long journey studying English as a foreign language and their familiarity with the oral session activities, which we assume allows them to participate in the experiment.

Section Two: Data Analysis and Results

1. Data analysis of the Questionnaire

1.1 Before the Treatment:

Responses to Item 1: (I never feel quite sure of myself when I am speaking in my foreign language class.)

Table 3.1 Responses to Item 1 (Before the Treatment)

Options	N	%
Strongly Agree	5	19.2%
Agree	9	34.6%
Neither agree nor disagree	4	15.4%
Disagree	8	30.8%
Strongly disagree	0	0%
Total	26	100%

The table shows that the majority of students agreed that they never feel sure about themselves when they are speaking in foreign language class. 15.4% of students neither agreed

nor disagreed with the statement, and only 8 students disagreed. The mean of scores for this statement $\mu=3.42$ with a standard deviation of $\sigma: 1.115$

Responses to Item 3: (I tremble when I know that I'm going to be called on in language class.)

Table 3.2 Responses to Item 3 (Before the Treatment)

Options	N	%
Strongly Agree	5	19.2%
Agree	9	34.6%
Neither agree nor disagree	3	11.5%
Disagree	8	30.8%
Strongly disagree	1	3.8%
Total	26	100%

Students were asked about their reactions when they are asked to participate and speak during a language class. Their answers were quite different, and the table shows that 19.2 % strongly agreed. Nine students, who represent 34.6% of the students, agreed to the statement. 30.8% of students disagreed, while 11.5% neither agreed nor disagreed. The mean of scores for this statement $\mu=3.35$ with a standard deviation of $\sigma: 1.207$

Responses to Item 9: (I start to panic when I have to speak without preparation in language class.)

Table 3.3 Responses to Item 9 (Before the Treatment)

Options	N	%
Strongly Agree	10	38.5%
Agree	6	23.1%
Neither agree nor disagree	6	23.1%

Disagree	4	15.4%
Strongly disagree	0	0%
Total	26	100%

The majority of participants strongly agreed to the statement, and 23.1% agreed, which means more than 60% start to panic when speaking without preparation in class. The mean of scores for this statement is very high $\mu=3.85$ with a standard deviation of $\sigma: 1.099$

Responses to Item 12: (In language class, I can get so nervous I forget things I know.)

Table 3.4 Responses to Item 12 (Before the Treatment)

Options	N	%
Strongly Agree	3	11.5%
Agree	11	42.3%
Neither agree nor disagree	4	15.4%
Disagree	5	19.2%
Strongly disagree	3	11.5%
Total	26	100%

The table shows that more than 50% of participants agreed to this statement, and 30% disagreed. The mean of scores for this statement is $\mu=3.23$ with a standard deviation of $\sigma: 1.219$

Responses to Item 13: (It embarrasses me to volunteer answers in my language class.)

Table 3.5 Responses to Item 13 (Before the Treatment)

Options	N	%
Strongly Agree	3	11.5%

Agree	7	26.9%
Neither agree nor disagree	6	23.1%
Disagree	6	23.1%
Strongly disagree	4	15.4%
Total	26	100%

The results we obtained for this statement were close and partially similar to each other because as we can see on the table, the number of students who agreed and disagreed is the same. Although we got this similarity, we still have some students who were neutral in their answer and could not confirm whether they agree or not. The mean of scores for this statement is $\mu=2.96$ with a standard deviation of $\sigma: 1.255$

Responses to Item 18: (I feel confident when I speak in foreign language class.)

Table 3.6 Responses to Item 18 (Before the Treatment)

Options	N	%
Strongly Agree	1	3.8%
Agree	4	15.4%
Neither agree nor disagree	7	26.9%
Disagree	11	42.3%
Strongly disagree	3	11.5%
Total	26	100%

Table 3.6 shows that only five students agreed to the statement, while more than 50% disagreed. This means that most of the participants were not confident before the experiment when speaking in foreign language class. This is a positive statement, so the scores are reversed when calculating. The mean of scores is $\mu=3.42$ with a standard deviation of $\sigma: 1.007$

Responses to Item 20: (I can feel my heart pounding when I'm going to be called on in language class.)

Table 3.7 Responses to Item 20 (Before the Treatment)

Options	N	%
Strongly Agree	5	19.2%
Agree	8	30.8%
Neither agree nor disagree	7	26.9%
Disagree	4	15.4%
Strongly disagree	2	7.7%
Total	26	100%

The results obtained from Table 3.7 indicate that most participants representing a percentage of 50% agree to the above statement, while only six students disagreed. The mean of scores for this statement is $\mu=3.38$ with a standard deviation of $\sigma: 1.179$

Responses to Item 24: (I feel very self-conscious about speaking the foreign language in front of other students.)

Table 3.8 Responses to Item 24 (Before the Treatment)

Options	N	%
Strongly Agree	0	0%
Agree	12	46.2%
Neither agree nor disagree	8	30.8%
Disagree	4	15.4%
Strongly disagree	2	7.7%
Total	26	100%

Table 3.8 shows that 46.2% of students agree that they feel very self-conscious about speaking the foreign language in front of other students. The result also indicates that only six disagreed. The mean of scores for this statement is $\mu=3.15$ with a standard deviation of $\sigma: 0.948$

Responses to Item 27: (I get nervous and confused when I am speaking in my language class.)

Table 3.9 Responses to Item 27 (Before the Treatment)

Options	N	%
Strongly Agree	3	11.5%
Agree	8	30.8%
Neither agree nor disagree	5	19.2%
Disagree	7	26.9%
Strongly disagree	3	11.5%
Total	26	100%

Table 3.9 shows that the answers were relatively close, and only one student made the difference between those who agreed and those who did not. Therefore, the rounded value of the scores' mean is about $\mu=3.04$ with a standard deviation of $\sigma: 1.224$

Responses to Item 31: (I am afraid that the other students will laugh at me when I speak the foreign language.)

Table 3.10 Responses to Item 31 (Before the Treatment)

Options	N	%
Strongly Agree	5	19.2%
Agree	7	26.9%
Neither agree nor disagree	3	11.5%

Disagree	7	26.9%
Strongly disagree	4	15.4%
Total	26	100%

As Table 3.10 shows, the answers for this statement were also close, except neutral responses being lesser than the previous statement. Therefore, the rounded value of the scores' mean is about **$\mu=3.08$ with a standard deviation of $\sigma: 1.385$**

Responses to Item 33: (I get nervous when the language teacher asks questions which I haven't prepared in advance.)

Table 3.11 Responses to Item 33 (Before the Treatment)

Options	N	%
Strongly Agree	3	11.5%
Agree	10	38.5%
Neither agree nor disagree	8	30.8%
Disagree	3	11.5%
Strongly disagree	2	7.7%
Total	26	100%

Table 3.11 shows that the majority of students agreed to the above statement. 30.8% gave a neutral answer, leaving only five students disagreeing with the statement. The mean of scores is **$\mu=3.35$ with a standard deviation of $\sigma: 1.072$**

1.2 After the Treatment:

Responses to Item 1: (I never feel quite sure of myself when I am speaking in my foreign language class.)

Table 4.1 Responses to Item 1 (After the Treatment)

Options	N	%
Strongly Agree	0	0%
Agree	8	30.8%
Neither agree nor disagree	7	26.9%
Disagree	9	34.6%
Strongly disagree	2	7.7%
Total	26	100%

Table 4.1 shows that most participants disagreed with the statement after the treatment, leaving only 30.8% on the agreeing side. A comparison between the mean scores of both phases indicates that the mean was lower after the treatment with a rounded value of $\mu=2.80$ and a Standard Deviation of $\sigma: 0.962$. (**Before the Treatment: $\mu = 3.42$ with a standard deviation of $\sigma: 1.115$**)

Responses to Item 3: (I tremble when I know that I'm going to be called on in language class.)

Table 4.2 Responses to Item 3 (After the Treatment)

Options	N	%
Strongly Agree	1	3.8%
Agree	7	26.9%
Neither agree nor disagree	8	30.8%
Disagree	8	30.8%

Strongly disagree	2	7.7%
Total	26	100%

Table 4.2 indicates that after the treatment, the participants have changed their perspectives significantly. We notice that more students disagree with the statement after the experiment. This is seen in the comparison between the means before and after the treatment, wherein in the latter it is much lower at a value of $\mu=2.88$ with a standard deviation of $\sigma: 1.012$ from $\mu=3.35$ with a standard deviation of $\sigma: 1.207$ before the treatment.

Responses to Item 9: (I start to panic when I have to speak without preparation in language class.)

Table 4.3 Responses to Item 9 (After the Treatment)

Options	N	%
Strongly Agree	2	7.7%
Agree	8	30.8%
Neither agree nor disagree	10	38.5%
Disagree	6	23.1%
Strongly disagree	0	0%
Total	26	100%

Table 4.3 shows that more participants are on the neutral side after the experiment. Even though the results indicate that students are still more likely to panic when they have to speak without preparation in language class, the mean of scores after the treatment $\mu=3.23$ with a standard deviation of $\sigma: 0.890$ is lower than the one recorded before the treatment $\mu=3.85$ with a standard deviation of $\sigma: 1.099$

Responses to Item 12: (In language class, I can get so nervous I forget things I know.)

Table 4.4 Responses to Item 12 (After the Treatment)

Options	N	%
Strongly Agree	2	7.7%
Agree	10	38.5%
Neither agree nor disagree	3	11.5%
Disagree	9	34.6%
Strongly disagree	2	7.7%
Total	26	100%

Table 4.4 shows that the results from both tests are closely similar. There was not a significant change in the answers of participants. Nevertheless, the mean of scores after the treatment was lower:

Before the Treatment: $\mu=3.23$ with a standard deviation of $\sigma: 1.219$

After the Treatment: $\mu=3.04$ with a standard deviation of $\sigma: 1.160$

Responses to Item 13: (It embarrasses me to volunteer answers in my language class.)

Table 4.5 Responses to Item 13 (After the Treatment)

Options	N	%
Strongly Agree	0	0%
Agree	4	15.4%
Neither agree nor disagree	8	30.8%
Disagree	10	38.5%
Strongly disagree	4	15.4%
Total	26	100%

Table 4.5 indicates that more students disagree with this statement after the treatment,

and only 4 participants agree. Therefore, the mean of scores after the treatment is lower:

Before the Treatment: $\mu=2.96$ with a standard deviation of $\sigma: 1.255$

After the Treatment: $\mu=2.46$ with a standard deviation of $\sigma: 0.929$

Responses to Item 18: (I feel confident when I speak in foreign language class.)

Table 4.6 Responses to Item 18 (After the Treatment)

Options	N	%
Strongly Agree	0	0%
Agree	8	30.8%
Neither agree nor disagree	9	34.6%
Disagree	7	26.9%
Strongly disagree	2	7.7%
Total	26	100%

Table 4.6 shows that 30.8% of students agreed to the statement. Even though more than 34% of participants still disagree with this statement after the experiment, this number is significantly lower than before the treatment, where more than 50% disagreed. This means that after the treatment, some participants became more confident when they speak in language class.

The mean of scores is also lower after the treatment:

Before the Treatment: $\mu=3.42$ with a standard deviation of $\sigma: 1.007$

After the Treatment: $\mu=3.412$ with a standard deviation of $\sigma: 0.933$

Responses to Item 20: (I can feel my heart pounding when I'm going to be called on in language class.)

Table 4.7 Responses to Item 20 (After the Treatment)

Options	N	%
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Strongly Agree	0	0%
Agree	8	30.8%
Neither agree nor disagree	8	30.8%
Disagree	9	34.6%
Strongly disagree	1	3.8%
Total	26	100%

Table 4.7 shows that the majority of participants disagree with the statement above after the application of the treatment. The number of students that disagree has doubled after the treatment, which in return lowered the mean of scores to $\mu=2.88$

Before the Treatment: $\mu=3.38$ with a standard deviation of $\sigma: 1.179$

After the Treatment: $\mu=2.88$ with a standard deviation of $\sigma: 0.891$

Responses to Item 24: (I feel very self-conscious about speaking the foreign language in front of other students.)

Table 4.8 Responses to Item 24 (After the Treatment)

Options	N	%
Strongly Agree	0	0%
Agree	8	30.8%
Neither agree nor disagree	10	38.5%
Disagree	7	26.9%
Strongly disagree	1	3.8%
Total	26	100%

Table 4.8 shows that after the treatment, the majority were neutral about the above statement. Eight students agree that they feel very self-conscious about speaking the foreign

language in front of other students. The results also show that the number of students who disagree is also 8. The mean of scores, however, is slightly lower after the treatment.

Before the Treatment: $\mu=3.15$ with a standard deviation of $\sigma: 0.948$

After the Treatment: $\mu=2.96$ with a standard deviation of $\sigma: 0.854$

Responses to Item 27: (I get nervous and confused when I am speaking in my language class.)

Table 4.9 Responses to Item 27 (After the Treatment)

Options	N	%
Strongly Agree	1	3.8%
Agree	4	15.4%
Neither agree nor disagree	10	38.5%
Disagree	8	30.8%
Strongly disagree	3	11.5%
Total	26	100%

Table 4.9 indicates a significant change in results before and after the treatment. The last recordings show that the majority of students, accounting for nearly 43%, disagree with the above statement, while only 19% agree.

Before the Treatment: $\mu=3.04$ with a standard deviation of $\sigma: 1.224$

After the Treatment: $\mu=2.69$ with a standard deviation of $\sigma: 0.991$

Responses to Item 31: (I am afraid that the other students will laugh at me when I speak the foreign language.)

Table 4.10 Responses to Item 31 (After the Treatment)

Options	N	%
Strongly Agree	0	0%

Agree	5	19.2%
Neither agree nor disagree	2	7.7%
Disagree	14	53.8%
Strongly disagree	5	19.2%
Total	26	100%

As shown in Table 4.10, the answers for this statement after the treatment are not as close as they were before the treatment. The majority of participants representing 73%, disagree with the above statement. Furthermore, only five students still fear that the other students will laugh at them when they speak the foreign language. Therefore, the rounded value of the scores' mean is significantly lower after the treatment.

Before the Treatment: $\mu=3.08$ with a standard deviation of $\sigma: 1.385$

After the Treatment: $\mu=2.27$ with a standard deviation of $\sigma: 0.983$

Responses to Item 33: (I get nervous when the language teacher asks questions which I haven't prepared in advance.)

Table 4.11 Responses to Item 33 (After the Treatment)

Options	N	%
Strongly Agree	1	3.8%
Agree	8	30.8%
Neither agree nor disagree	10	38.5%
Disagree	5	19.2%
Strongly disagree	2	7.7%
Total	26	100%

Table 4.11 shows a minor positive change in the answers provided by respondents. Therefore, the mean of scores is slightly lower after the treatment.

Before the Treatment: $\mu=3.35$ with a standard deviation of $\sigma: 1.072$

After the Treatment: $\mu=3.04$ with a standard deviation of $\sigma: 0.980$

1.3 Scoring Differences for Each Student Before and After the Treatment

Table 5: Experimental Group Scoring Differences Before and After the Treatment

<i>Students</i>	<i>Before</i>	<i>After</i>	<i>Difference</i>
1	34	30	4
2	48	42	6
3	32	31	1
4	43	35	8
5	27	26	1
6	36	31	5
7	36	34	2
8	40	34	6
9	19	21	-2
10	45	36	7
11	26	23	3
12	44	32	12
13	27	25	2
14	29	26	3
15	35	31	4
16	43	37	6
17	22	25	-3
18	38	35	3
19	44	33	11
20	32	36	-4
21	32	27	5
22	31	24	7
23	45	35	10
24	47	32	15
25	44	36	8
26	46	37	9
<i>Mean</i>	36.35	31.31	4.96

From table 5, we notice that participants scored a lower mean after the treatment $\mu=31.31$ in comparison to the value recorded before $\mu=36.35$. To examine the improvement of respondents after the experiment, we compared the difference in scores for each student and

calculated the mean difference of **4.96**. Based on the participants' scores before and after the treatment, we notice that their speaking anxiety levels are significantly lower after the application of video games. All participants showed a lower speaking anxiety score at the end of the study; the only exceptions were students N; 9,17, and 20.

1.4 Paired t-Test Results:

Table 6: Review of data

<i>Experimental Group</i>	<i>Before the Treatment</i>	<i>After the Treatment</i>
<i>Mean</i>	36.35	31.31
<i>SD</i>	8.27	5.25
<i>SEM</i>	1.62	1.03
<i>N</i>	26	26

Confidence interval:

The mean of scores before the treatment minus the mean after the treatment equals 5.04

95% confidence interval of this difference: From 3.19 to 6.89

Intermediate values used in calculations:

$t = 5.6065$

$df = 25$

Standard error of difference = 0.899

P-value and statistical significance:

The two-tailed *P*-value is less than 0.0001 ($P < .0001$)

By conventional criteria, this difference is considered to be statistically significant. Therefore, the main assumption of this study is confirmed, meaning that video games have a positive impact on reducing FLSA.

1.5 Overall Discussion and Analysis of the Results

The present study aimed to discover the impact of using video games on reducing Algerian EFL learners' speaking anxiety. Hence, this research sought to answer the following questions:

1. Are video games helpful in reducing Algerian EFL learners' speaking anxiety?

Results suggested that the use of video games statistically significantly reduced participants' FLSA. This finding is consistent with those found in the work of Grimshaw and Cardoso (2019). However, unlike previous studies that focused on foreign language learning anxiety, the current research aimed at investigating the effect of video games on speaking anxiety alone. Statistical analyses of the mean of FLSA scores recorded before the treatment for the 26 participants revealed that the majority had a moderate to high FLSA with a mean score of 36.35. Further analysis of scores recorded after the treatment shows a decrease in FLSA by a difference of 4.69. The new mean of scores for participants was reduced to 31.31, which is still considered a moderate level of FLSA, but nonetheless an improvement from the previous test. The current research showed some exceptional results with a few students, like student N=24, who showed a remarkable improvement at the end of the experiment with a difference of 15 between mean scores of both tests. This study indicates that using video games to reduce FLSA of students is of great potential. Importantly, we end up confirming our research hypothesis that video games have a positive impact on lowering Algerian EFL learners' speaking anxiety.

1.6 Limitations of the Study

To the researchers' dismay, the current study ran across some roadblocks while performing the research, preventing it from going as smoothly as planned. This resulted in

several limitations that are to be stated as follows:

- ✓ Initially, the overall study was planned to be experimental as the researchers sought to use a quasi-experimental design with a control group and an experimental group. However, because of the coronavirus epidemic, there was a substantial disruption in providing the necessary atmosphere. As a result, the researcher has no choice but to use a one-group pre-test post-test design.
- ✓ Due to the situation mentioned above caused by Covid-19, the FLCAS was administered on an online platform.
- ✓ The initial sample size of 40 students was reduced to only 26 who were able to participate in the experiment and respond to the questionnaire before and after the treatment; the other 14 students either quit halfway or did not show up for the treatment after answering the questionnaire for the first time.
- ✓ The inaccessibility of some sources like paid books and articles obliged the researchers to use a limited number of pieces. This issue was encountered mainly in writing the second section of the literature review.

1.7 Pedagogical Recommendations and Suggestions

In light of what has been achieved in the research study, the lowered FLSA of learners after the use of video games led to state the following recommendations:

- ✓ Due to the limitations noted from the study, it is noteworthy to suggest replicating this study using a quasi-experimental design.
- ✓ Oral expression Teachers should consider recommending the use of video games as a strategy to aid their students in lowering FLSA levels.

- ✓ EFL Learners should make use of video games to practice their English and enhance their speaking skills.
- ✓ Teachers should start integrating video games as a tool in the teaching process because of their potential in creating an enjoyable atmosphere to communicate using English.
- ✓ FLSA should be given more importance as it hinders language acquisition and the learning process.
- ✓ Teachers should help anxious students by creating a friendly and supportive environment where they can communicate and use English without the fear of negative evaluation or being laughed at.

Conclusion

This chapter highlighted the overall practical framework by dealing with the data analysis and interpretation of the research tools. The first section was devoted to discussing the research methodology. It touched upon the research assumptions as they are deemed the center around which the study revolves. Then it moved on to discuss the research tools used to carry out the study at hand. The second section was seized to the analysis and discussion of the data yielded from the research instruments. It, therefore, displayed the numerical data in the form of tables and percentages. Then, it discussed the significant findings that sprung up from the data analysis. It started with discussing the FLCAS results before the treatment; then, it gave an equally detailed discussion of the scores after the treatment. It, consequently, came to the conclusion that video games have a positive impact on reducing Algerian EFL learners' FLSA. Then, it pointed out the obstacles encountered when conducting the study. Last but not least, this chapter ended by laying down some pedagogical recommendations based on the findings.

General Conclusion

For many people, overcoming the obstacle between learning a language and using it can be difficult. After all, we use language to communicate with others, establish social connections, and convey our collective knowledge and experiences. Language is an intricate part of who we are. If you have learned to start practicing talking to others in real-life situations, it is normal to feel a little anxious. This anxiety can result from the fear of appearing unintelligent or ignorant, fear of negative evaluation and inability to communicate, or a lack of confidence in one's abilities. FLSA is a common experience for those learning a foreign language. The disadvantage of feeling anxious to the point of not speaking or avoiding speaking the language is that you will struggle to achieve your language learning goals. You may lose the confidence you have in yourself to be successful or get discouraged and give up. Fortunately, the advance in technology has paved the way for teachers to use ICT tools to facilitate teaching and learning foreign languages. This study, therefore, aimed fundamentally at investigating the impact of using video games on reducing Algerian EFL learners' FLSA. It has been assumed that video games will positively lower the FLSA of EFL learners at the University of Mohamed Seddik Ben Yahia, Jijel. This study consisted of two main chapters to handle the matter at hand.

The first chapter, divided into two sections, provided an overview of the literature on the research topic. It shed light on the basic concepts that the present research revolves around. The first section tackled FLSA and its components. However, the second section was devoted to discussing the use of video games in general and their integration in foreign language teaching in particular with regard.

The second chapter, which was equally divided, dealt with the practical aspects of this study. The first section focused on the research methodology and the description and administration of the research tools. The second section, on the other hand, focused on the

analysis and discussion of the results.

Regarding the main findings of this quantitative study, it was found that video games had a noticeable positive impact on reducing the FLSA of Algerian EFL learners at the University of Mohamed Seddik Ben Yahia, Jijel. Moreover, the results showed that the use of video games helped students with high anxiety levels significantly. To put it briefly, because the goal of this study was to investigate the impact of using video games on reducing EFL learners' FLSA, and because the findings confirmed the research hypotheses, it is recommended that teachers integrate video games as a tool to help anxious students to overcome their FLSA.

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Appendix A

(FLCAS) items # 1, 3, 9, 12, 13, 18, 20, 24, 27, 31, 33

Items	Strongly agree	Agree	Neither Agree nor disagree	Disagree	Strongly disagree
I never feel quite sure of myself when I am speaking in my foreign language class.					
I tremble when I know that I'm going to be called on in language class.					
I start to panic when I have to speak without preparation in language class.					
In language class, I can get so nervous I forget things I know.					
It embarrasses me to volunteer answers in my language class.					
I feel confident when I speak in foreign language class.					
I can feel my heart pounding when I'm going to be called on in language class.					
I feel very self-conscious about speaking the foreign language in front of other students.					
I get nervous and confused when I am speaking in my language class.					
I am afraid that the other students will laugh at me when I speak the foreign language.					
I get nervous when the language teacher asks questions which I haven't prepared in advance.					

Resumé

Cette étude visait à étudier l'impact des jeux vidéo sur la réduction de l'anxiété des apprenants algériens EFL à parler une langue étrangère. Afin de mener l'étude, la méthode post-test pré-test à un groupe a été utilisée pour obtenir des données quantitatives. Dans cette recherche, la population des participants était des étudiants de troisième année EFL à l'Université de Mohamed Seddik Ben Yahia, Jijel. Les 26 volontaires ont participé à 10 sessions de jeu sur une période de 5 semaines. L'instrument appliqué dans cette étude était le FLCAS (items liés au facteur d'appréhension communicative) et pour avoir une réflexion générale et authentique de l'effet des jeux vidéo sur l'anxiété de langue étrangère des apprenants d'anglais, un pré-test et post- Le test a eu lieu avant et après le traitement pour évaluer les niveaux d'anxiété des participants par rapport à une langue étrangère et comparer les résultats enregistrés. Les résultats ont révélé que la mise en œuvre des jeux vidéo comme outil d'apprentissage a le potentiel de réduire l'anxiété de parole des apprenants EFL. Ces résultats ont confirmé notre hypothèse initiale.

ملخص

تطمح هذه الدراسة إلى تحري تأثير ألعاب الفيديو على الحد من التوتر اللغوي المصاحب لتحدث اللغات الأجنبية لدى الطلبة الجزائريين، تخصص لغة إنجليزية، و من أجل إجراء هذه الدراسة تم اختبار مجموعة من الطلاب قبل و بعد إقامة التجربة للحصول على بيانات كمية. في هذا البحث ، كان مجتمع المشاركين من طلاب الصف الثالث في جامعة محمد الصديق بن يحيى ، جيجل. شارك 26 متطوعًا في 10 جلسات ألعاب على مدار 5 أسابيع، و كانت الأداة المستعملة في هذه الدراسة هي مقياس التوتر اللغوي FLCAS بعد انتقاء العناصر المتعلقة بعامل الحديث و التواصل، و من أجل التوصل إلى نتائج دقيقة تعكس حقيقة تأثير ألعاب الفيديو على التوتر اللغوي لدى متعلمي اللغة الإنجليزية كلغة أجنبية تم تقديم المقياس للمشاركين في هذه الدراسة قبل وبعد إجراء التجربة لتقييم مستويات التوتر اللغوي لديهم ومقارنة النتائج المسجلة. كشفت النتائج أن استخدام ألعاب الفيديو كأداة تعليمية لديه القدرة على الحد من التوتر اللغوي المصاحب لتحدث اللغة الإنجليزية لدى الطلبة. أكدت هذه النتائج فرضيتنا الأولية.