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Creative approaches to teaching vocabulary in one of Csíkszereda's elementary schools

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Introduction

Vocabulary plays a crucial role in learning any language (Hill 2012), as different words and expressions create the basis of using and understanding languages in general. With the fast-paced world we live in and the rise of technology, the way we learn and teach has changed a lot (Price and Oliver 2007). Learners have a variety of options when it comes to learning a language, making it easier and more accessible than ever before. These options include traditional classes, language learning apps, online language courses, language exchange programs, private tutoring, language learning books, online resources and language learning through media etc. For me, learning English started before English lessons began at school, since I was introduced to it both while playing in summer camps with the aim to learn basic vocabulary and when I was playing simple online games. Games have always been used for teaching, however, digital games are now extremely fashionable (Sanjaya 2023). In fact, they gained outstanding popularity in 2020 and the following years as online teaching replaced the traditional school system for shorter or longer periods of time in many countries worldwide (Saleem 2022).

I believe that involving games in the learning and teaching process, though not a new technique, may contribute to a higher motivation level and better test results. However, we can differentiate between traditional games and digital games, and one can argue for and against them. The present controlled study compares two short learning sessions, one enriched with traditional games and one with digital games. The aim of the experience was to answer the question if there is a significant difference in test scores in these two groups in the short term. In addition, it also includes the learners' side, whether the games motivated and helped them acquire vocabulary easier or not, according to their opinion. My hypothesis was that the students of the experimental group would achieve greater success in acquiring vocabulary related to food and cooking, and possibly enjoying the learning session more as it involved more modern, up-to-date game elements as opposed to their peers in the control group.

This study focuses on learning and teaching vocabulary related to food and cooking, as well as using these words in context. The experimental group of 5th grader students went through a study session enriched with digital games and multimedia elements, while the control group of 5th grader students played rather traditional games and learned “the traditional way” during the same process.

The present paper consists of three chapters. It starts by outlining the theoretical background, which discusses the topic of teaching vocabulary and deals with dictionary use.

This chapter also enlists possible definitions for some key terms regarding game, game-based learning, gamification and motivation. In this research, I rely on game-based learning, but I also compare the term with gamification as they are closely related terms. Furthermore, the present paper studies both the potential benefits and challenges associated with involving games in the educational process.

Moving on to methodology, the second chapter offers a detailed picture about the teaching sessions, describing the differences between the learning activities carried out with the two groups, as well as a few observations in relation with the learners' manifestations and attitude during the lessons. The last chapter presents the obtained data and discusses the results of the controlled study, which is followed by a brief conclusion.

1. Theoretical background

1.1. Teaching vocabulary

Learners need to see words in context to understand how they are used (Harmer 2007). Thus, the most effective way to introduce vocabulary for students is reading texts, listening to audio tracks or watching videos to see or hear the words in action. Reading texts in classrooms offers students language input, a possibility to see how words are used. Exercises such as matching words from a given text with their definitions or asking the opposite of a given word are also great ways of introducing new vocabulary. When introducing new vocabulary, we have to take into consideration that it may not actually be new to some learners in the class. This can occur especially if students are already on intermediate level or beyond (Harmer 2007). Learners build up their vocabulary over time as they hear and use English words. This may be due to being exposed to English at school, while watching television or listening to song lyrics, too. In order to discover the vocabulary students already acquired, they may do a brainstorming activity. This can be done as simple as writing the language topic in a circle on the board, then adding students' words around it. This activity provides an insight into the learners' pre-existent knowledge, activating their passive vocabulary as well (Jones 2016).

There are other ways to activate passive vocabulary, such as giving students a word, then asking them to provide a synonym or antonym. This exercise works great with adjectives, helping students develop their skills. Moreover, speaking should not be left out either. Vocabulary should be reinforced by speaking activities, too. However, the question arises: what words should be taught at all? Well, as Jones (2016) states, we cannot and should not try to teach every word in the English language. In reality, even native speakers of any language have a surprisingly limited active vocabulary and a much larger passive one that they only use in particular situations, for instance when they explain something technical (Jones 2016).

As Jones (2016) continues, vocabulary cannot be separated as a language discipline, but it is the combination of new words and all the other aspects of learning a language. Therefore, language teachers should not only teach words, but also present opportunities for learners to discover new vocabulary items by themselves, too. The most effective way to do this is homework activities. Learners may discover new words by watching videos or podcasts, or reading an article as homework. In this case, their task would be noting down the new vocabulary. The following class, this task provides a speaking practice, since students have to discuss the words they noted down. They should share the new words and explain their

meanings to the others. This activity helps vocabulary stick more easily as students learn the words organically instead of as a part of a vocabulary set, and they have seen the word in its natural context, which makes it more likely for them to understanding its meaning (Jones 2016).

Thornbury (2002) reflects upon one of the major difficulties of learning new vocabulary, which is the fact that students need to learn both the meaning and the form of the new words. There should not be a gap between the presentation of the words' form and meaning lest the mental connection should not happen. Another thing to consider is the number of the new words presented. This number should not exceed the students' capacity to remember them. Also, the presentation should not extend to the point that we run out of time to see how those words work (Thornbury 2002).

Moreover, the most widely used means of presenting the meaning of words is translation. It has the advantage of being the most direct route to the meaning of the words, and it is also economical and suitable in the majority of cases. Illustrating or demonstrating can be alternatives to translation. This can be done with either using real objects, pictures or mime. Visual objects may take many forms, such as flashcards, wall charts, using projectors to demonstrate something and board drawings. Another efficient way of memorizing new vocabulary is simply letting learners work at their own pace as much as it is possible. This way, they get to think of personally relevant connections (Thornbury 2002).

1.1.1. About dictionaries

As Harmer remarked, “[d]ictionaries ... are perhaps the greatest single resource students can have at their disposal” (2007: 239). Unfortunately, at the same time they can actually be the least used resource by learners. Dictionaries contain a great amount of information about words, which includes not only their meanings but also how they operate in context. Dictionaries are now available online too, which makes them portable on any device or mobile phone. (Fageeh 2014) Other benefits of online dictionaries include flexibility, easy access, saving time and money, as well as the possibility of an interactive way of searching for words (Mohamad 2017).

We can differentiate between reference and production dictionaries. Firstly, reference dictionaries are the ones we use most frequently. Besides the meaning of a word, they include information like how the word given is used, spelt and pronounced. The learner may also be provided with several other data, such as: differences between British and American usage of the word, similar words and their meanings, frequency regarding their use in speech versus

writing, levels of formality, connotations and others. Most of the time, learners use reference dictionaries when they have already come across a certain word or expression and they check its meaning or the way to use it properly.

Secondly, production dictionaries are designed for learners to use it the other way round. While using this type of dictionary, students look for a general word which they already know, and which is suitable for the concept they wish to express. To sum it up, reference dictionaries are full of extremely valuable information if the goal is to check word use, meanwhile production dictionaries offer learners a quicker way to find new words.

It is important to note that the overuse of dictionaries may be frustrating to some teachers, especially when talking about the online versions. While talking, both the teacher and the learners expect to be paid attention to, while constantly checking for words in the dictionary might actually interrupt the dialogue or redirect the learners' attention to other things. The goal is to encourage students to use dictionaries in the right circumstances, as they provide truly valuable resources. Learners need to know and recognize situations when dictionary use is acceptable and efficient, as well as the circumstances when it becomes less useful or even distracting. On the other hand, we should be sympathetic to the students' desire to understand each word, as the majority of foreign language speakers experience it. The solution probably lies in agreeing with students when and how dictionary use is allowed and necessary (Harmer 2007).

1.1.2. Activities related to dictionaries

In order to increase the frequency of using dictionaries among learners, teachers may involve activities dealing with using them. These can help not only in the process of using dictionaries, but also in introducing the use of dictionaries as a part of classroom work. The first step is to persuade students that dictionaries can truly give them power. To make this happen, teachers themselves should both talk about dictionaries and actually use them during lessons. This can even be helpful in situations when learners ask weird questions related to the meaning of a certain word, or if the teacher simply does not happen to remember something instantly. The second step would be actually teaching students how to read and understand the information found in dictionaries. This process helps in making students successful dictionary users as soon as they get the hang of it. The third and last step is including dictionary use in the lessons. It is vital that learners are told that dictionaries do not only inform us about the meaning of a word, but provide information on its grammar, pronunciation and stress as well. In some

cases, they may even provide one or more example sentences, too. At the beginning, it is a good idea to include short and simple activities related to using dictionaries in every lesson. For instance, talking about the entry of a word found in the dictionary could include asking questions, such as: what parts of speech the word given can be, how many meanings it has, whether it is specifically used for something and the list goes on (see for instance Harmer 2007). After each piece of information, the teacher may ask the learners about the way they found it out as well as showing them how to use dictionaries properly and efficiently.

In addition, as Harmer (2007) remarked, games can be used in the process of learning to use dictionaries, starting with a definition game. Besides teaching students about the use of dictionaries, this activity also helps them get used to the way definitions are usually formulated. What makes this game unique is that the student trying to guess the answer is actually the same person to choose the question, without realizing it. The activity starts by dividing the class into two teams and handing both groups at least one copy of the same dictionary. One student from the first group chooses a number between one and the number of the last page of the dictionary, and also decides whether the left or the right side of the dictionary should be looked at. The next step is choosing a number between 1 and 10. After this, one student from the other group searches the exact page and word chosen, reading aloud its definition. The student who chooses the word given has to guess it based on the definition. This activity can be made more fun if the teams can earn points for guessing the right word. The number of points may be determined by how easily they guessed the word – with or without help. If we want to make sure that learners are actually able to guess the words, the rules can be slightly changed. For instance, choosing the most frequently used word on the given page, choosing only one of the multiple meanings of a word or simply choosing an easier one from the next page or the one before it (Harmer 2007).

Another activity mentioned by Harmer (2007) is more effective with advanced students who have already learnt using dictionaries and can efficiently work on their own or in pairs. This activity consists of preparing a vocabulary worksheet with unknown words or expressions that are planned to be covered in the following study sessions. This way, students can already start understanding, memorizing as well as using these words or expressions in context. Learners may benefit by claiming words and phrases on their own. Making dictionary use central to the activity also contributes to reinforcing the possible benefits of using dictionaries. Another way to combine fun and using dictionaries occurs when students need to find specific words related to a certain topic, for instance when doing a project. Production dictionaries may provide a lot of help in this case, since they possibly introduce new words and phrases that the

student has never heard before related to a certain topic. Such dictionaries offer an ideal tool for language research, provided that the designers have managed to predict the words the learners are likely to need (Harmer 2007).

1.2. Terms and definitions

1.2.1. Game

According to Kapp, “[a] game is a **system** in which players engage in an **abstract challenge**, defined by **rules**, **interactivity**, and **feedback**, that results in a **quantifiable outcome** often eliciting an **emotional reaction**” (2012: 7; emphasis mine). For a better understanding, it is necessary to look at each element of this definition.

Following the definition provided by Kapp (2012), system refers to a number of connected components throughout the “space” of the game. The concept of a game’s system is that each part has an effect on and is integrated with other parts. It also involves a score that is associated with a piece movement strategy. Scores are related to actions, which are limited by rules. In games, players interact with both the content and other players. The player is the one engaging in the game. Learning frequently happens as a result of playing games. This is the reason why integrating games can improve students’ results. However, reality is frequently abstracted in games, and the “game space” is usually rather restricted. This indicates that while a game may not be a perfect reproduction, it has aspects of a realistic event or its essence. This is true in the case of the board game Monopoly, which while simulating some aspects of business and real estate operations, does not accurately represent them (Kapp 2012).

Playing games challenges participants to accomplish goals and results that are neither simple, nor straightforward. When you compete against someone who has equal knowledge about the game, even a simple game might be difficult. If there is no longer a difficulty in a game, it gets dull, yet even a small challenge might encourage a player to try to reach the winning state of the game. The game is defined by its rules. They provide the framework for the artificial construct to occur. Within the limits of the gaming environment, they specify the order of play, the winning condition, and what is “fair” and what is not. Interactions are also part of games. Players engage in interactions with one another, the game system, and the delivered material of the game. Games usually have a lot of interactive elements (Kapp 2012).

The feedback that games give to players is one of their defining features. Feedback is typically immediate, direct and clear. On the basis of both positive and negative feedback,

players are able to process it and make fixes or improvements. Games are made with a concrete winning state in mind. When a game is well-designed, the player can clearly see when they have won or lost; there is no uncertainty. A clear outcome is defined by a score, level or winning state. This is one characteristic that sets games apart from a state of “play”, which lacks a clear goal or quantifiable outcome. This is another quality that makes games perfect for educational contexts (Kapp 2012).

Lastly, games frequently include feelings. There are many different emotions that occur in games, from “the thrill of victory” to “the agony of defeat.” In many circumstances, the emotion of completing a game is just as gratifying as playing it. However, frustration, rage and despair can occasionally also be present in a game. Games create intense emotions on many levels greater than the majority of human encounters (Kapp 2012).

As for video games, we can state that they require a specific design pattern that integrates crucial elements. They also align with the primary objective of gamification, which is motivation. These components encompass points, badges, leaderboards, progress bars or progression, performance graphs, quests, levels, avatars, social elements and rewards or rewards systems. Each element serves a unique purpose, such as points representing numeric accumulation from specific activities, badges visually showcasing achievements online, and leaderboards indicating player rankings based on success. Progress bars or progression visually depict a player’s status, quests involve tasks players must fulfil and levels represent distinct sections or parts of the game. Avatars serve as visual representations of players or alter egos, while social elements involve in-game relationships with other users. The rewards or rewards system is a motivational mechanism for players who accomplish specific quests. Importantly, all these elements can be adapted to various professional, business, or educational environments (Sailer et al 2013).

1.2.2. Game-based learning (GBL)

Game-based learning, also used as GBL, is a natural development from conventional teaching strategies that use static, non-interactive components like textbooks, chalkboards and lecturing to students rather than engaging them in exploration. In this form of experimental engagement, people learn by trial and error, role-playing and seeing a particular subject not as “content” but rather as a set of rules or a system of decisions and consequences. Students can explore, solve problems, take on challenges and make decisions through the use of games in classrooms (Mead 2011).

In Govindarajan's concept (2020), game-based learning involves utilizing games as a facilitator for educational purposes. In essence, it is the integration of games into the learning process. While the definition is straightforward, game-based learning encompasses diverse functions, types and purposes. It spans across educational levels from preschool settings catering to children under five to advanced university courses. The application of game-based learning can range from simple face-to-face games to more intricate ones involving modern devices. Additionally, its versatility extends to various subjects and disciplines, making it adaptable for a wide range of learning scenarios.

Game-based learning is increasingly utilized for dry, technical and boring material, transforming it into engaging and interactive learning experiences. It is particularly effective in tackling subject matter that is inherently difficult, providing students with an immersive and enjoyable way to grasp complex concepts. It also proves to be valuable for reaching audiences that are traditionally hard to engage, making learning more accessible and enjoyable for diverse groups. It addresses difficult assessment and certification issues by incorporating game elements that make the evaluation process more interactive and dynamic. In dealing with complex understanding processes, GBL offers a hands-on approach, allowing learners to explore and comprehend intricate concepts at their own pace. It also supports sophisticated "what if" analyses, creating simulated environments where learners can explore various scenarios and consequences. It is effective in strategy development and communication, allowing learners to apply strategic thinking and communication skills in a simulated setting (Ke 2008). In addition, playing computer-based video games helps players not only with their fact or recall processes but also with problem-solving skills since they learn to see various solutions to an issue (Chuang and Chen 2007).

1.2.3. Gamification

The term 'gamification' was first used by Nick Pelling, a British computer programmer, in 2003. Werbach and Hunter (2012) describe gamification as the use of game mechanics and game design principles in non-game contexts. It is supported by decades of research on human psychology, the growth of the video game industry and social media. Basically, gamification can be applied to any activity, assignment, procedure or theoretical context. The primary objective of gamification is to motivate people and increase engagement in an activity through the use of game elements like leaderboards, rewards and awards.

Gamification has already been used for a variety of purposes beyond education. These include motivating employees, conceptualizing the idea of energy preservation, understanding and preventing diseases, promoting healthy competition, encouraging charitable donations, fostering consumer loyalty and so on (Figueroa 2015).

New pedagogical approaches have emerged as the twenty-first century progresses and technology continues to play an increasingly significant role in it. The needs, surroundings and competences of the learner in the twenty-first century were taken into consideration when developing these tactics. Learners of this century are called “digital natives”. A digital native learns and processes information differently. They are defined as being completely involved in technology, utilizing all of the gadgets and toys of the digital age, including computers, video games, digital music players, video cameras, mobile phones and more (Prensky 2001).

Gamification in education offers the unique opportunity to combine content area instruction both with literacy and twenty-first century learning skills in a context that is extremely encouraging for learning (Kingsley and Grabner-Hagen 2015). It integrates game elements and reward mechanisms as part of the lecture, while motivating and engaging the student and promoting healthy competition. Students learn a concept and practice skills just like if they were playing in a game. This makes the educational experience challenging and fun, and at the same time motivates the learner to move forward (Vassileva 2008).

Gamification has been shown to be an effective instructional method for increasing undergraduate students’ motivation and participation. However, it does not appear to improve students’ academic achievement. In addition, gender has little impact on motivation, both in terms of performance and motivation and emotion (Rincon-Flores 2022).

Men and women experience gamification in various ways, and the emotional aspect of the phenomenon suggested that women felt more comfortable with having more opportunities to correctly answer the challenge. This might indicate a gender bias in how students approach problems in the classroom. Gamification should be focused on creating a positive competition where users of all genders can participate and receive recognition (Rincon-Flores 2016).

1.2.4. Differences between game-based learning and gamification

To fully understand these two terms, it is essential to compare them. As Al-Azawi et al (2016) put it, gamification transforms the entire learning process into a game by incorporating game mechanics and elements into existing educational courses and content. This integration aims to enhance learner motivation and engagement. Some examples of these mechanics

include achievement badges, points, leaderboards, progress bars and levels or quests. The concept of gamification extends beyond learning activities; it has been applied to various areas to boost user participation and engagement. In contrast, game-based learning involves using actual games to improve the learning experience, a practice educators have employed in classrooms for years (Al Azawi et al 2016).

Gamification sets itself apart from GBL by transforming the entire learning process into a game. Instructional designers achieve this by incorporating game design elements, which are digital components that create a game-like experience. Examples of these elements include fixed rules, negative consequences, ranks, player effort, reputation and variable outcomes. Designers also employ game mechanics and game thinking. Game mechanics involve rules and feedback loops, such as point systems, leaderboards, levels, rewards and time constraints. Game thinking aims to create immersive experiences through storytelling, challenges and requests. While both gamification and game-based learning utilize similar gaming mechanics, elements and thinking, the distinction lies in the scope: game-based learning focuses on turning specific learning objectives into games, whereas gamification turns the entire learning process into a game (Al-Azawi et al 2016).

1.2.5. Motivation

It is widely believed and accepted that motivation is essential to succeed in most fields of learning. Without the necessary amount of motivation, failure is almost guaranteed as no effort will be made. Therefore, it is important to delve into the meaning and origin of motivation as well as into how it can be sustained in the long run (Harmer 2007).

To define motivation at its most basic level, it could be denoted as a kind of internal drive that pushes people to do things with the aim to achieve something. In Brown's conception, motivation deals with the need for ego enhancement being a fundamental motivator. He calls it the need "for the self to be known and to be approved by others" (2007: 169). Motivation is also regarded as the need for exploration.

Williams and Burden (1997) state that the strength of motivation is influenced by how much value the individual places on the outcome he or she desires to achieve. Adults' and children's goals may vary, as adults may have clearly defined or vague goals, while children tend to have goals that are difficult to describe, though they can be just as powerful.

When talking about motivation, there is an accepted distinction between extrinsic and intrinsic motivation. In other words, we can differentiate between motivation that comes from 'outside' and from 'inside.' Extrinsic motivation may result from a number of outside factors, such as the need to pass an exam, the desire to get a financial reward or the dream to travel in the future. In contrast, intrinsic motivation roots in the individual. Therefore, a student may be motivated by enjoying the learning process or simply by the desire to make themselves feel better while being involved in the process (Harmer 2007).

External sources of motivation need to be taken into consideration when talking about students' motivation towards learning English (Harmer 2007). This process can be affected and influenced by a number of people's attitudes, so it is worth taking notice of. One of the strongest outside sources of motivation is the goal itself. It is the idea that students perceive themselves to learn for. This may be built on the forthcoming of an exam, resulting in more commitment during the lessons compared to the ones without a definite goal. In other cases, learners may simply want to be able to express themselves in English in order to find a better job or understand websites and media in English. On the other hand, some students may not have any goals related to learning English, such as beginner, young learners. In this situation, they may attain motivation during the process from other sources.

According to Harmer (2007), another external source of motivation is the society we live in. We need to take into consideration questions about the importance of learning English

according to the society that surrounds us, the high or low status of learning the language in school, the idea of the option to choose between two languages to learn, as well as whether the cultural images associated with English are positive or negative. Students' attitudes towards language learning is heavily influenced by the people who are in a close relation with them. Parents' and older siblings' attitude plays a crucial role in forming the young learners' approach to the language they learn. These close family members may serve as role models to the young, so their opinions and thoughts regarding language learning will have a significant effect on the student. Another relation to mention are the students' peers themselves. Even if a student is primarily enthusiastic about learning the language, negative perceptions by others may make this student lose interest, too. On the contrary, the more enthusiastic the classmates are about learning English, the more motivated the learner will be to learn the subject.

The last outside source of motivation to mention is curiosity. Young learners are naturally curious about a lot of things, which should not be underestimated. Many students may be curious and interested from the start, regarding their new teacher and what their lessons will be like. Learning English for the first time is also a possible occasion the students' are naturally motivated for and curious about. This initial motivation is both valuable and vital in order to build rapport with the learners (Harmer 2007).

1.3. Possible benefits and challenges of games with educational purposes

1.3.1. Benefits

Involving games in the learning process makes it more engaging and motivating, helping learners develop additional important skills. A popular type of gamification is designed for group work, when certain groups, leagues, clans or teams collaborate to achieve a shared goal. These gamified learning experiences emphasize teamwork and cooperation. The sense of community created gives students social responsibility and emotional involvement. As students work together, they enhance social skills while reaching the objectives (Barghani 2020).

Taking into consideration students' motivation levels, personalities and game preferences allows instructional designers to create formats that more closely match specific student demographics. This flexibility is challenging to achieve in traditional teaching settings where time and resources limit the extent of differentiation. Gamified learning environments enhance students' learning experiences by providing them with choices and a space where they can take risks and deepen their understanding without the fear of failure (Barghani 2020).

Gamified learning settings offer learners flexibility in terms of their participation, level, tasks and the pace at which they complete activities. The ability to customize and adapt learning to each student's requirements is a significant advantage of gamification. Granting students the option to choose aspects of their learning enhances their sense of independence, and such personalized choices have proven to be especially advantageous in promoting student engagement (Girard et al 2013).

One of the strongest justifications for gamifying education is the rapidity of player or student feedback. People frequently receive unpredictable, inconsistent and untrustworthy feedback on their activities from life. In an educational context, feedback frequently becomes more targeted, though not always quicker. It can take a week or longer for a student to receive feedback on a task, presentation or even a concept. In an online environment, feedback may arrive in seconds depending on the type of the game. In a gaming environment, feedback is nearly always focused, instantaneous and intended to let the player adjust their strategy for better, more desired outcomes (Gilleade et al 2005).

In a 2020 study, Smiderle et al found that participants in the gamified environment demonstrated a higher average in points, badges and the number of logins compared to those in the non-gamified group. However, no statistically significant findings were observed to support the notion that the gamified group exhibited greater engagement than the non-gamified group.

In their study, the gamified system proved to be capable of influencing student behaviour, as evidenced by the gamified group participants showing a noteworthy enhancement in the quality of their submitted solutions. This improvement was characterized by increased accuracy, calculated as the number of correct solutions sent divided by the total number of solutions submitted. What is more, each personality trait was assessed independently. Interestingly, introverted participants, present in both the experimental and control groups, exhibited a greater number of points, medals and logins compared to their extroverted counterparts. Notably, a statistically significant difference emerged in the number of points and ranking visualization between introverted and extroverted gamified groups, highlighting a divergence in how users with varying personality traits respond to gamification effects.

Concerning the personality trait neuroticism, no discernible distinctions were noted between the gamified and non-gamified groups. However, it is worth mentioning that individuals with high neuroticism levels in both groups demonstrated a higher frequency of logins.

Moving on to the conscientiousness personality trait, participants with high conscientiousness levels in both the gamified and non-gamified groups demonstrated greater

accuracy in solving exercises. Notably, only low conscientious students who utilized the non-gamified system experienced a significant decrease in accuracy. This decline suggests that the accuracy loss in the non-gamified group primarily originated from individuals with low conscientiousness. A possible explanation for this observation is that individuals with this personality trait tend to be more careless and negligent in their approach to tasks (Smiderle et al 2020).

Nechifor et al (2022) came to the conclusion that gamification, viewed as an overarching strategy in education, integrates game-based, project-based and task-based approaches alongside traditional manual-based teaching, all within a communicative framework. This comprehensive approach serves as a reflection of the digital era we currently inhabit, seeking to recreate in classrooms the 3F dimension – friendly, familiar and fun – that students are deeply attached to, similarly to the gaming experience.

In the dynamics of their experiment, they meticulously addressed emotions, constraints, narrative, progression and relationships, as the instructional framework included the approach in its entirety. Their teaching process aimed to enhance students' motivation by involving them in dynamic activities that fostered relationships, allowing them the freedom to make choices within specified limits. This approach considered their diverse cultural backgrounds and personal emotions.

Regarding mechanics, challenges were presented to students, chance elements emerged through various competitions and leaderboards, and rewards were consistently provided, with cooperation being a central focus. Feedback played a crucial role throughout the experiment (Nechifor et al 2022).

This comprehensive approach successfully boosted their motivation and met the desired objectives of the experiment. Simultaneously, they effectively monitored and addressed the sole negative aspect that formed (some students excessively pursuing points) by diversifying teaching methods and not relying exclusively on gamification throughout the process (Nechifor et al 2022).

1.3.2. Challenges

Like all aspects of life, incorporating games into learning activities comes with its own set of possible challenges, whether they are traditional or digital games. The first possible challenge to mention is the technical support itself. As Shute et al (2015) stated, an unavoidable and essential aspect of involving games in the learning process includes the handling of the

necessary tools for gaming sessions. Even for simple game-based learning activities, the arrangement and synchronization of these elements in a classroom take a significant amount of time and a considerable degree of technological knowledge. Playing online games generally requires at least a working computer and a stable Wi-Fi connection, not to mention that each student probably needs to have their own device to play on. Thankfully, similar devices are provided to more and more schools, however, they may be outdated and therefore difficult to maintain and use. What is more, a great number of schools still do not have the necessary digital equipment to use for any purpose during lessons. In addition, learners might experience frustration if there are technical issues in implementing game-based learning practices or if there is a disconnection from the intended learning objectives (Shute et al 2015).

Another possible challenge is connecting the games with the learning materials. According to Marklund Berg and Alklind Taylor (2016), teachers often face the task of linking the content of the game with the details of the subject it is meant to teach. Games usually simplify things, using abstract ideas and representations. Players need to constantly relate game actions to real-world actions. If the game actions are very different from real-world actions, there is a risk of losing the connection. If a game is not specifically made to teach the subject in detail and accurately, it is up to the teacher to link the game content to the subject matter (Marklund Berg and Alklind Taylor 2016).

What is more, as Domínguez et al found out (2013), game-based learning pointed out possible drawbacks for both students and teachers, with challenges faced by teachers often leading to negative impacts on students. What is more, students may find game-based learning to be time-consuming, and predicting the duration of game sessions can be challenging. Additionally, some students may feel uncomfortable due to the competition, visibility and comparison of game results. Gamified classes might be perceived as demanding, and certain students and teachers may prefer traditional learning and teaching methods.

To sum up the first chapter, I gathered information related to the practical part of the study: teaching vocabulary with the integration of games. I also discussed the possible benefits and challenges in order to give a general picture of the usefulness, as well as the limitations of games in educational contexts. The goal of the experiment was to test the effectiveness and motivating factor of face-to-face games versus digital ones in two small groups of young learners. Two main questions arose: (1) Do traditional or digital games result in better improvement in educational contexts? and (2) Which type of games appear to be more motivating for these young learners?.

2. Methodology

The method I used in my pedagogical research is the controlled experiment or controlled study. The short experiment took place in March – April 2024. It consisted of 8 lessons in total and another two occasions in both groups to complete the pretest and the post-test. As part of the empirical research, I compared the short-term results of the experimental group of 5th grader students to that of the control group of 5th grader students, as well as their motivation and engagement in games with an educational purpose. The experimental group received a series of learning sessions enriched with digital games and multimedia elements, meanwhile the control group went through the same process using traditional games.

In the present study, I formulated the following research questions: (1) Is there a significant difference in the result of the experimental and control group keeping in mind that throughout the pedagogical experiment the experimental group practised vocabulary using digital learning apps, while with the control group I used traditional games in class? (2) Are digital games more motivating to learners than traditional games these days?

My first hypothesis is that the students of the experimental group would achieve greater success in acquiring vocabulary related to food and cooking, as their learning sessions involved more modern, up-to-date game elements as opposed to their peers in the control group. My second hypothesis is that digital games are slightly more motivating for today's generation in educational contexts. The reason behind this is the popularity of virtual games, as well as the fact that introducing digital elements into the learning and teaching process is more and more accessible.

The experimental group consisted of 19 students, and there were 16 students in the control group. These two numbers do not represent the total number of students in the classes, as 3 students from the experimental group and 2 learners from the control group were not present on the first day of the experiment, some of them were missing the following week as well. In addition, other 3 students from the experimental group and 2 learners from the control group were not present when the post-test took place. Thus, their results were not taken into account when comparing the two groups' results.

Both the experimental and the control group completed a pretest before conducting the pedagogical experiment. The experimental group filled in the test using Google Forms on their mobile devices. As for the control group, they completed the same pretest in a written form on printed test sheets. The aim of this pretest was not only mapping the two groups' existing vocabulary related to food and cooking, but also to evaluate their ability to use these lexical

items in multiple contexts. The pretest consisted of ten tasks of various types, including both simple and more complex questions. It involved objective and subjective items in order to gain a more detailed picture on the students' pre-existing knowledge.

2.1. The teaching sessions

After both groups completed the pretest, in the first lesson the topic of food and drink was introduced to both of the groups. Firstly, we examined the vocabulary and the images in the book related to the topic, then both groups were handed out a worksheet. It contained exercises such as differentiating between fruits and vegetables, matching foods with the images, deciding whether a sentence was true or false, gap filling exercise, as well as drawing a few food items. In addition to these exercises, I introduced the topic to the experimental group by using a few slides, which had been edited in Canva. Using a projector, the slides helped us with even more colourful images for certain exercises, and in sharing the pre-edited solutions sentence by sentence when using the vocabulary in context. The goal for the very first lesson was to get a picture of the learners pre-existing knowledge related to food and cooking, to introduce the topic and starting to use the vocabulary in context.

As for the second set of lessons, we moved on to talking about British sweets connected to various holidays. In the experimental group, we watched a video to visualize the information of the text in the book about British sweets and holidays. After that, we worked with understanding the text, highlighting the unknown words. In the control group, we focused only on the text and the exercises in the book. Both groups solved a phrase matching exercise, as well as differentiating between true or false sentences according to the text, also correcting the false sentences. In the experimental group, we used [liveworksheets.com](https://www.liveworksheets.com) to practice the vocabulary in a digital, possibly more engaging environment, with the possibility of having an instant feedback (score). Learners solved multiple choice exercises and matched words with images related to breakfast foods. They were asked to complete the set of exercises until they reached about 90% accuracy. In order to prove it, they had to take a print screen with their scores. They were also encouraged to practice some more at home with these exercises. Moving on to the control group, they solved a printed version of the same worksheet on the topic of breakfast foods. After that, the game began. Students had to guess a certain food item by formulating yes/no questions and receiving answers from the class. One student wrote the name of a food item on a piece of paper, then another held it in front of the class, trying to guess it by the information he or she managed to gather. Students took turns and seemed truly excited about

the game. Some learners had difficulties formulating questions and needed some assistance, however everyone managed to guess the food item after a little help.

Moving on to the third lesson, cooking verbs and cooking tools got involved. Firstly, we got familiar with the vocabulary presented in the book, then completed the list with other basic words related to the topic. To provide some cooking verbs and tools that were not included in the book, I presented another few slides to the experimental group, edited in Canva. The slides offered images of various vocabulary items, drawing learners' attention when trying to find the meaning of the extra words listed. To continue, students of the experimental group played an online game at [blooket.com](https://www.blooket.com), practising the definition of certain cooking verbs in a gamified environment. Every time they chose the correct verb for the given definition, they had the chance to pick one chest out of three. By opening the chests, they could collect gold, double or even triple the amount of gold they collected, as well as lose a certain percentage of their score, steal or even swap with one of their peers. With this said, this game clearly requires not only knowledge but luck, too. Students had a total of 5 minutes to play, and the player who managed to get the highest amount of gold by the time those 5 minutes passed, won the game. Players who were quick and finished all the exercises in less than 5 minutes, had to solve them again and again until the end of the time limit. Even if all the exercises were solved perfectly, the winner position was not guaranteed, as it was shown by the results. The player to win the game had a 50% accuracy but got really lucky at the end. The player to come second did excellent with an 83% accuracy. As for the student who got third place, this percentage goes up to 96%. What is even more interesting to consider is that both players who finished fourth and fifth solved the exercises with not a single mistake, both reaching 100% accuracy. To conclude, this game is good for making learners compete with each other, however, it is important to note that the final standing do not necessarily represent the knowledge of the students. As for the control group, we played the hangman game, but instead of hanging someone, we "broke" drawn eggs, as it was Easter time. One student thought of a word related to cooking or ways of preparing food, then drew as many underscores on the whiteboard as many letters the word consisted of. Then, students had to guess the word letter by letter. If the word did not contain the letter mentioned, one out of the fifteen drawn eggs broke. If the letter was right, the student wrote it on the whiteboard at its appropriate place. When a word was discovered, the person who guessed the word correctly had to switch places with the student at the whiteboard. Some words were guessed within very few rounds, while others took a bit more eggs to break before finding them. Overall, I noticed that this game managed to involve learners who did not normally raise their hands to read an exercise or answer a question throughout other activities in the classroom.

In the fourth lesson, we mostly focused on the revision of the vocabulary we worked with. In both groups, the lesson started by listing and translating a few traditional Easter foods well-known in our region. Then, we moved on to exercises related to foods, cooking verbs and cooking tools. The first exercise was to form basic sentences which included a cooking tool, a cooking verb and an ingredient (for instance: *You need a whisk to beat eggs*). Students took turns in forming sentences, and using the words in multiple contexts. We also mentioned a few other ingredients that could be combined with the given verbs and cooking tools. In the second exercise, students had to choose the correct cooking verbs and cooking tools so that the sentences given made sense. The last exercise was about finding the odd word out in categories such as vegetables, fruits, drinks and sweets. As for the online games, the experimental group played on [quizwhizzer.com](https://www.quizwhizzer.com), where they were racing on a virtual board game. Learners had to solve multiple choice exercises with one or more correct answers, they had to recognize images of certain foods, find the odd words out, choose the correct phrases, as well as decide on true or false statements and answer open-ended questions. Each correct answer allowed them to take one step further and get closer to the finish line. However, wrong answers meant moving one space backwards. What is more, certain places on the board offered a power-up to students. In case of a correct answer, they had the possibility to shoot someone they choose with a canon, so that the player moves back one step, adding an extra challenge to the game. Before entering the finish line, each question had to be answered correctly. When certain players finished, others still could continue the game. Using a computer and a projector, players could see where everyone stands in the virtual board game and the leaderboard as well. Students were instantly shown the correct answer each time they got a question wrong, so this game offered a great opportunity to practice vocabulary, learn from mistakes and enjoy the learning process while competing with classmates. Learners in the control group played a game where they had to imitate certain cooking activities or ways of preparing food, and others had to guess what activity the person was showing them/performing. Students took turns and stood in front of the class. The student who was the first to guess the mimed activity, got to switch places with their classmate and mime another one. This game made some students step out of their comfort zone while having fun and trying to remember the cooking verbs we studied together.

Both groups of 5th grader students were given homework at the end of each lesson so that they practised the newly learnt words and used them in context at home, too. In some cases, there was a slight difference in the exercises as we could make more progress with one or the other group during the lesson. The previously planned exercises for homework were quite flexible and they depended on how much we could cover during a single lesson. However, we

always took the time to look at the homework together first, so that everyone understood the exercises, the words and the context in which they had to use the vocabulary.

In addition to what I noticed about the learners' behaviour and classroom engagement, one of my university classmates had the opportunity to observe some of my lessons while sitting in the back of the classrooms. He helped me by paying more attention to students' engagement and whether they were solving the tasks or getting distracted while playing. According to his feedback, students generally managed to pay attention and complete the exercises they were asked to. As for the games, there were some distracting factors in the experimental group, since they got access to their phones which could be an immediate way to get involved with things that were not related to the lesson.

2.2. The pretest and the post-test

The fifth encounter with the classes involved in the pedagogical experiment provided opportunity for the students to complete the post-test in order to follow, analyse and compare research data and discuss the results. The post-test was a similar, yet somewhat improved version of the pretest. It included 10 tasks of multiple types, both objective and subjective items, as well as simple and more complex tasks. Compared to the pretest, I added more options to choose from in tasks where students had to pair vocabulary items, as well as more items to match with their definitions depending on the type of the exercise. All four open-ended questions in the tests were slightly changed for various reasons. The first open-ended question in the pretest was to name vegetables they like. However, in the post-test students were asked to write 5 vegetables they like, so that we could monitor whether they are able to name more items of this food category. The second open-ended question dealt with meals consumed at different times of the day. In the pretest, students had to name what they usually eat for dinner. As for the post-test, this question was replaced by foods people usually eat for breakfast with the aim not to get less relevant answers like in the pretest, such as 'I don't eat dinner', 'I don't know' and 'I eat what my parents prepare'. The next question was actually edited to be more precise. In the pretest, students were asked to name berries they know. Although, I found out that 'berry' is a vague term, since not all fruits including the word 'berry' are real berries, what is more, many fruits are not even named 'berry' but are scientifically berries, such as bananas and oranges. To make this question clear, students had to list fruits ending with the word *-berry* in the post-test. The last open-ended question was dealing with traditional holiday foods. In the pretest, students named traditional Christmas foods, meanwhile in the post-test, taking place

around Easter-time, they had to list foods we eat for Easter. There was one task where students had to match English words with their equivalents in Hungarian. This task was solved perfectly by 7 students in the experimental group and another 5 students in the control group in the pretest, while it was more challenging to other students. However, I ended up changing three words in total. Firstly, I didn't add the word 'lamb' to the post-test not to give students tips on listing Easter foods, so we could see what they remembered it by themselves. The other two words were not matched correctly by only 1-3 people in both groups, so they appeared to be too easy and they were eventually replaced with new ones.

This last test also offered an insight into the students' opinions and experiences related to the games played through the learning sessions. Following the tasks described above, students have been asked to rate how much they agree with some statements about the effectiveness of the games, whether they found them motivating or not, if they enjoyed them or not and whether they were looking forward to playing educational games during the lessons or not. They had to rate these statements on a scale of 1 to 4, where 1 meant they completely disagreed with the affirmation, 2 referred to rather not agreeing, 3 marked rather agreeing and 4 was used to express that they completely agreed with the statements. The experimental group had an extra question to answer, since they were told multiple times that they have the possibility to play these games at home, too. This was a simple yes/no question with the aim to discover if there were any learners so interested in the games to revisit the sites.

3. Results

In order to analyse both groups' results, possible progress or relapse and relation to the games we played, I examined all the tasks of the pretest and the post-test focusing on the number of perfect or closely perfect answers, as well as adequate answers to open-ended questions, then highlighted my observations. First, I compared the results of the two tests in the groups one by one, then I drew a parallel between the experimental group and the control group.

3.1. The experimental group

While comparing the results of the pretest and the post-test and summing up the quantifiable improvement or possible relapse of the group during the experiment, I would like to include additional information about the various tasks, as well as explore some of the possible reasons behind the results of certain tasks.

The very first task was to match English words with their Hungarian equivalents. In the pretest, 7 students out of 19 (36.8%) managed to solve it perfectly, and 4 more students made only one or two mistakes. In the case of the post-test, 7 learners solved it with no mistakes again, and another 6 learners made only one or two mistakes. There was no significant difference in the results of this task, as learners who were already familiar with the vocabulary succeeded in both cases, however, the ones with three or more mistakes did not really manage to improve their scores significantly.

The second task was a multiple choice question with only one correct solution out of the four possibilities. Students had to choose the appropriate answer related to the taste of custard. In the pretest, only 2 students (10.5%) knew the correct answer. In case of the post-test, students had one more option to choose from and the possible answers were improved, too. 7 students (36.8%) managed to answer this question correctly in the post-test, which is a slight development. The reason behind this may be the fact that this specific word related to British sweets was not used during multiple contexts or lessons, as other elements were in focus. However, I wanted to test whether learners manage to memorise details, too.

Moving on to the third task, students had to list vegetables they like. In the pretest, 6 students (31.5%) named at least two different items, and other 7 learners managed to write one adequate item. As for the post-test, they were asked to list 5 vegetables they like, with the aim to see if they manage to list more than before. 10 learners (52%) actually managed to name at least five correct possibilities, while 4 learners listed three or four elements. Unfortunately,

some students were still mixed up with the category of fruits and vegetables or listed them both. Overall, I would consider this a development as about half of the group managed to solve the task perfectly, noting that they were also required to list a certain number of items, which is higher than the items they listed in the pretest.

The fourth task was another multiple choice question, this time with five correct options in total. In the pretest, 7 answers (36.8%) were perfect, while other 10 students made only one or two mistakes. In the post-test, some items were changed and two more options were added as well to see if students can deal with its more complicated version. This time, there were 8 perfect answers (42.1%), and 4 students had only one or two mistakes. Here, the problem was not the fact that they could not choose the correct options at all, but that many students chose multiple wrong and correct options, too.

The following, fifth task was about choosing the odd one out, with one single correct answer. In the pretest, there were seven words to consider and about half of the group, 10 students (52.6%) solved it correctly. In the post-test, the list consisted of eight options, with three new words in total. Finally, we can observe a significant improvement regarding a certain type of task. In the post-test, the majority of students, 15 in total (78.9%) solved the odd one out task successfully. This may have happened thanks to the fact that the pre-test already included a tricky word that made students' task more difficult. However, double the amount of students managed to choose the word 'bread' as the odd one out in a list of vegetables, and did not get confused by the tricky word suggested earlier, which was 'cauliflower'.

The form of the sixth task was similar to the fourth one, since this multiple choice task consisted of eight elements in the pretest, ten options in the post-test and there were five correct options in total, in both tests. Initially, only 2 students (10.5%) solved the task with no mistake at all, and another 6 learners made one or two mistakes only. This task dealing with cooking verbs seemed to be difficult to answer perfectly in the post-test as well, since only 1 student (5.2%) chose all the correct answers, and not a single wrong one. However, about half of the group, 10 students did well, too, with one or two mistakes, which, here refers to not recognizing all the correct options. Although cooking verbs and tools were used in multiple contexts during our lessons, I suppose that it was still challenging to find all the possible solutions, especially without knowing the exact amount of words they were looking for.

Moving on, the seventh task was an open-ended question, asking students about what they eat for dinner (in the case of the pretest), with the aim of discovering their pre-existent vocabulary related to meals. The majority of the group, 13 students (68.4%) wrote adequate answers, 4 students were not able to write anything, and there were two answers that do reflect

on the question, since these students did not list any foods or meals, which was the goal of the task. These are the following: 'I eat for dinner what my parents prepare' and 'Always something else'. In order not to get vague answers, as previously mentioned in the methodology as well, we asked students to name foods that people usually eat for breakfast. This way, they could list breakfasts in general and were not too focused on answering what applies to them in everyday life. With these changes made, students performed a lot better. 12 learners (63.1%) managed to list at least two items, some of them naming even four or five elements. This time, there was only one student who did not answer at all, however, four other learners had problematic answers, such as writing a Hungarian word, misspelling an inadequate word, and naming foods that are simply not really in connection with breakfast foods.

The eighth task dealt with desserts, which students had to match with their definitions. In the pretest, this task consisted of five items to match, and a sixth one was added in the post-test, as well as changing the order of the words and definitions, since students were already familiar with the task. As for the pretest, only 5 learners (26.3%) solved the task with no mistakes, and a following 6 students only mixed up two words. In the post-test, the result were about the same: 8 students (42.1%) solved the task perfectly, 4 more students mixed up two words, and 1 learner matched five words correctly, then left out the sixth one. In this task, two traditional British desserts were included among more well-known desserts, however, students who struggled with matching the words with the definitions in the pretest, did not manage to memorize them during the experience, either. Not being able to significantly improve the scores of students who made more mistakes in the pretest than their peers is a reoccurring case I noticed when analysing the majority of answers. This may be due to the short period of the experiment itself, or the methods I used were not proven to be as effective as initially hoped.

The issues with the ninth task were already discussed in the methodology part of the present study, which is the problematic connection between the word 'berry' and fruits that are actually classified as berries. This was another task that we had to make even clearer in order not to get ambiguous answers in the post-test. In the pretest, the majority of the class, 13 students (68.4%) named at least one fruit that ends with the word 'berry'. However, I noticed the most spelling mistakes in this task, pointing out the word 'raspberry'. This was a word to focus on, since five students listed it in the pretest, but only one of them managed to spell it correctly. The results of the post-test show some great improvement here: 17 students (89.4%) could write at least one correct answer, which includes 8 students who remembered at least three different berries. This time, a total of ten learners listed raspberry as an example, but only

four of them spelled it correctly, which suggests that certain words may have been used more often for students to get used to its correct form.

The tenth and last task was an open-ended question again. At the first time, students were asked to list traditional Christmas foods, which, at the time of the post-test was changed to traditional foods we eat for Easter. Students wrote a few quite random answers here as well as vague ones, so, upon strict examination, 9 students (47.3%) managed to name Christmas foods in English. In case of the post-test, a few more students, 13 in total (68.4%) solved the task correctly. We did talk about traditional foods we eat for Easter as it was Easter period during the research, so the reason why more learners succeeded can be linked to this simple fact.

Table 1 below represents the percentage of students who managed to solve the indirect test items (tasks 1, 2, 4, 5, 6 and 8) perfectly in the pretest, as well as how the numbers changed in case of the post-test. The third column represents the improvements or relapses in percentages, when only focusing on the indirect test items and the rate of perfect answers given.

No. of the task	Pretest results	Post-test results	Progress
1.	36.8%	36.8%	-
2.	10.5%	36.8%	+26.3%
4.	36.8%	42.1%	+5.3%
5.	52.6%	78.9%	+26.3%
6.	10.5%	5.2%	-5.3%
8.	26.3%	42.1%	+15.8%

Table 1. Progress and relapse in the experimental group regarding indirect test items and perfect solutions

Now let us take a look at the questions that explore students' relation with the digital games we played. The first statement was that the games we had played in the classroom helped them understand and practice vocabulary. 2 students rather disagreed (10.5%) with this statement, the majority, 10 learners rather agreed (54.5%) and 5 students fully agreed (26.3%) with it. This may point out differences in the two groups, since the students of the experimental group usually played individually (except for when someone needed their classmate to share a device with them), while in the control group, the whole class had to pay attention to each other and collaborate during each game.

The second affirmation was that games motivated students in the learning process. 2 students rather disagreed (10.5%), 11 learners rather agreed (57.9%) and 4 students fully agreed (31.6%) with it. Even a group with a limited number of participants showed that games may really motivate some learners to get ahead, as in total, nearly 90% of the group at least partially agreed with the statement. Another thing to point out is that those 2 learners who were rather not motivated by the games, may have had their own reasons. One of them got the majority of the answers correct in both tests, so games may not have added too much for this student in the process. On the contrary, the other student who rather disagreed faced difficulties solving both tests, therefore, games were simply not the factor that could have helped this learner make improvement.

The third statement was that they enjoyed the games. 6 learners rather agreed (31.6%) and the majority, this time with 13 students fully agreed (68.4%) with it. This reflects upon the fact that, even if games are not that motivating for them to study, at least they enjoy them in educational contexts, too. The percentages are very similar related to the idea whether they were looking forward to playing during the lessons. 1 student rather disagreed (5.3%), 6 learners rather agreed (31.6%) and 12 learners fully agreed (63.2%). The majority of students who enjoyed the games claimed to have been also looking forward to playing.

Lastly, learners had to answer whether they tried the games at home as well in order to practice or study. Only 2 students (10.5%) answered with a yes, which points out that the online games we played were not that popular to play after the lessons.

3.2. The control group

As the difference between certain tasks in the pretest and the post-test were already discussed while analysing the experimental groups' results, I shall only focus on the results, differences, possible improvements or relapses this time. Another thing to note is that the control group consisted of less students, 16 in total.

The first (matching) task was solved perfectly by 5 students (31.2%), 3 others mixed up only two words, and there was 1 student who got eight words correct out of the then, and then matched both the remaining words with both the remaining options. In the post-test, slightly more, a total of 7 students (43.7%) completed the task with no mistakes, 1 student mixed up only two words and another one matched nine words correctly then did not match one with anything.

In the second task, only 3 students (18.7%) managed to choose the correct option in the pretest. In the post-test, this number changed to 4 students (25%). This slight difference, just like in the case of the experimental group, indicates that the word ‘custard’ was indeed not heard and used enough times for students to memorize and remember the fact how it tastes.

As for the third task, 9 students (56.2%) were able to name at least two vegetables in English, and one more learner wrote only one item in the pretest. This time, again, the majority of students, 10 in total (62.5%) managed to list at least five correct options, and another student named four vegetables in the post-test.

Moving on to the fourth task, where students had to choose all five correct options to get a perfect score, 5 of them (31.2%) managed to do so in the pretest. However, it is worth noting that a following 6 learners solved this task with only one or two mistakes. The results were similar in the post-test: 6 students (37.5%) provided a perfect solution and another 3 students had one or two mistakes.

In the pretest, 8 students (50%) found the odd one out in the fifth task, which slightly improved in the post-test, when 10 students (62.5%) succeeded. However, there were 3 learners who, for some reason chose two options, one of which was the correct answer. This could not happen in the experimental group, as they completed the test in Google Forms, which did not allow them to select more than one option in case of this task.

Just like in the other group, the sixth task was difficult to solve perfectly by choosing all the five suitable cooking verbs. In the pretest, 3 students (18.7%) managed it, but another 6 solved the task with only one or two mistakes. The improved version of the task in the post-test seemed to be a little more challenging to this group, since only one student (6.2%) happened to choose all the correct options. 8 peers made one or two mistakes in this case.

As for the seventh task, initially 10 students (62.5%) provided adequate answers, 4 students did not manage to answer at all, and just like in the experimental group, there were two vague answers that are not truly relevant, the goal of the task being to name meals we eat for dinner. These are the following: ‘I don’t know’ and ‘no eat for dinner’. Just like the other group, students performed a lot better when they were asked to list foods people usually eat for breakfast. In the post-test, 12 students (75%) listed at least three items, and finally, everyone managed to name at least one item without answering in their mother tongue.

As for the eighth task, 6 students (37.5%) managed to match all the desserts with their definitions correctly and, again, 6 others mixed up only two of them. The improved version of the task might have been more challenging, since 7 students (43.7%) solved it perfectly, however, only 2 more mixed up just two items with their definitions.

Coming up with the ninth task that deals with listing berries, almost everyone, 13 students (81.2%) were able to name at least one correct item, and only 3 students left this task blank in the pretest. In the post-test, each student managed to write at least one item, 4 of them listed three and another 4 learners named four correct items in total.

Lastly, in the tenth task 11 students (68.7%) listed adequate answers related to traditional Christmas foods in the pretest, and the other 5 learners did not manage to write anything at all. When the task was to list foods we eat for Easter, each and every student listed at least one item, and half of the students even remembered at least two or more words.

No. of the task	Pretest results	Post-test results	Progress
1.	31.2%	43.7%	+12.5%
2.	18.7%	25%	+6.3%
4.	31.2%	37.5%	+6.3%
5.	50%	62.5%	+12.5%
6.	18.7%	6.2%	-12.5%
8.	37.5%	43.7%	+6.2%

Table 2. Progress and relapse in the control group regarding indirect test items and perfect solutions

Table 2 above presents the results of the experimental group. These include: the percentage of students who managed to solve the indirect test items (tasks 1, 2, 4, 5, 6 and 8) perfectly in the pretest, how the numbers changed in case of the post-test, and the improvements or relapses in percentages, when only focusing at the indirect test items and the rate of perfect answers given.

With this group, we played rather traditional games that did not involve any electronic devices or technology. This being said, students had the possibility to choose which words to involve in the games we played in opposition with the experimental group. In their case, the games were pre-edited, therefore they might have encountered more new words, however, did not have the freedom to have any influence on the game.

Students of the control group had four statements to agree or disagree with, which made it possible to get feedback from them and explore their attitude towards the games we played together. With the first statement, we wanted to find out whether students consider that games helped them in memorizing and practising vocabulary or not. In the control group, 1 student

disagreed (6.2%), another 2 students rather disagreed (12.4%), more than half of the group, 10 students rather agreed (62.5%) and the remaining 3 students fully agreed (18.7%). The question whether the games motivated them in studying was more diversified in feedback compared to the experimental group. 3 students disagreed (18.7%), another 5 rather disagreed (31.2%), 6 of them rather agreed (37.5%) and only 2 students fully agreed (12.4%). The idea that even though games did not motivate students to learn on the whole, but they enjoyed playing them anyway is proven to be right in this group as well. Only 1 learner disagreed (6.2%) that they enjoyed the games, 3 students rather agreed (18.7%) and the majority, 12 students (75%) fully agreed. The feedback is similarly positive considering the idea that students were looking forward to play on the lessons with educational purposes. 1 person rather disagreed (6.2%), half of the group rather agreed and the remaining 7 students fully agreed (43.7%). Overall, this group provided positive feedback about the games we played, however, the opinions varied when talking about the efficiency and motivating nature of the games in the learning process.

3.3. Comparing the results of the two groups

In order to compare the two groups, I focused on the indirect, objective test items and the feedback students provided in relation with the games we played. First, let us take a look at the last columns of the tables presented earlier (Tables 1 and 2). These summarize the data of the pretest and post-test, and show the improvement of students during the experiment expressed in percentages. The direct items of the test were detailed in the previous two subsections; those tasks were not taken into consideration in the table below, only the indirect test items in order to be able to follow the progress in percentages.

No. of the task	Experimental group	Control group
1.	-	+12.5%
2.	+26.3%	+6.3%
4.	+5.3%	+6.3%
5.	+26.3%	+12.5%
6.	-5.3%	-12.5%
8.	+15.8%	+6.2%
Improvement rate	+68.4%	+31.3%

Table 3. Progress and relapse in both groups regarding indirect test items and perfect solutions

In Table 3, the numbers in green mark the group whose test scores improved more significantly in a certain task after the learning sessions, compared to the other group. We can notice that in case of the sixth task, both groups show a little relapse, so I highlighted the smaller range of relapse in grey. Numbers in red, on the other hand, represent the accumulated improvement of both groups, realized in percentages and taking into consideration the percentages of relapse as well. According to the data analysed and presented, the experimental group managed to improve more in providing perfect solutions. However, before making a possible connection between improvement and the type of games played in the experimental and control group, let us compare students' attitude towards digital and traditional games with educational purposes.

First of all, the figure presented below illustrate students' viewpoints regarding whether games were helpful in memorizing and practising vocabulary.

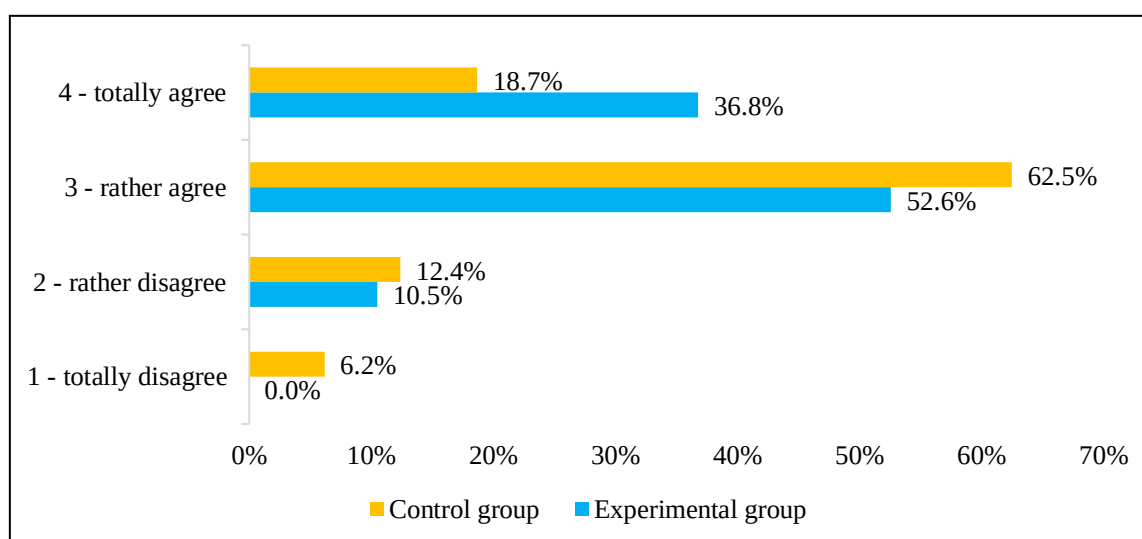


Figure 1. The control and the experimental groups' feedback regarding the efficiency of games used for vocabulary practice

In the experimental group, approximatively 90% of students agreed or at least rather agreed, which is a great indicator of the fact that games do offer help in language learning. This number is slightly smaller in the control group, where around 80% of the students agreed or rather agreed with the statement. Although this is not a significant difference, it is worth noting that nobody disagreed with the statement in the experimental group, meanwhile there happened to be one person to do so in the control group. Moreover, there is another approximatively 10% difference in agreeing or rather agreeing with the statement, with slightly more students

agreeing in the experimental group. This phenomenon may be explained by the fact that students in the experimental group were exposed to more new words during the games, meanwhile in the control group, games focused on cooperating and paying attention to each other. The next thing to explore was whether games motivated students in the learning process (see Figure 2 below).

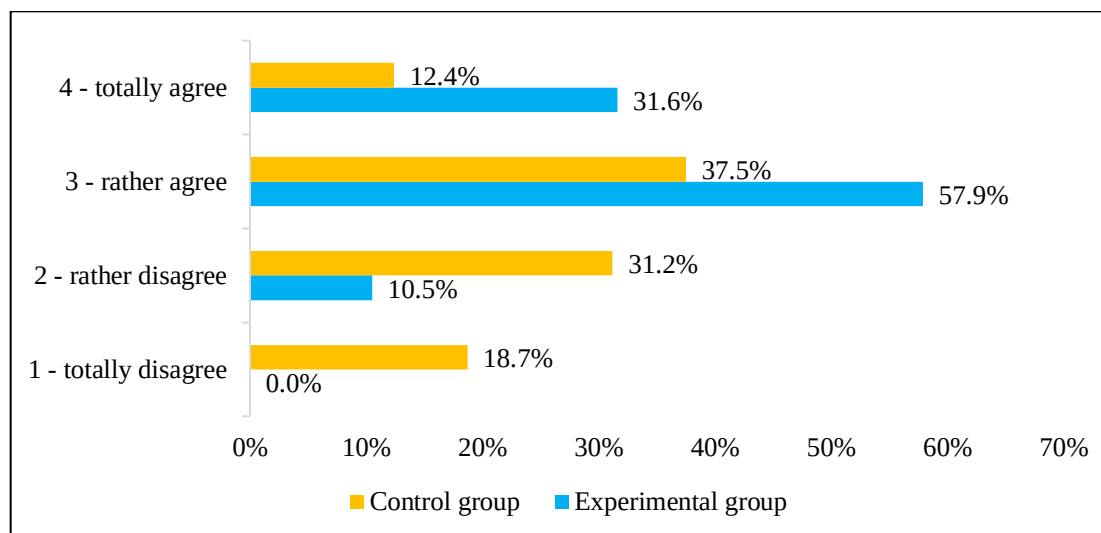


Figure 2. The control and the experimental group's responses regarding the motivating factor of games in language learning

Similarly to the previous statement, in case of the experimental group, around 90% of learners agreed or rather agreed with the idea that digital games motivated them in the learning process. The majority of the class rather agreed, but none of them disagreed. This could be explained by the nature of the online games I brought into class, since they could follow their development through collecting points or virtually stepping forwards in a board game. The feedback to this topic was a lot more diversified in the control group. The control group, although closely half of the students agreed or rather agreed with the statement, shared their lack of motivation, too. This is not necessarily a negative factor, as it may be simply explained by the fact that students in the control group were not put in a competing situation, therefore, games did not have any effect on them in terms of motivation.

Motivating or not, I consider that everyone agrees with the fact that games are entertaining, fun and contribute to making good memories. The third piece of information to look at is whether the students of the experimental and the control group enjoyed the games we played. Both groups agreed that enjoyed the games we played and provided positive feedback.

I also noticed during the teaching sessions that anytime I announced that we would continue with some games, students got immediately excited. This observation was confirmed by the vast majority of them in this part of the post-test. Although there was one student in the control group who admitted that he or she did not enjoy the games at all, one single exception does not change the fact that games are indeed fun and can be entertaining with educational purposes as well.

The games were carefully prepared for each lesson, however, students were not informed that our goal is to involve games in every lesson. Therefore, I was eager to find out whether they were thinking about it and looking for the next game to play during the lessons. This was the last statement in the post-test of the control group, and the penultimate one in the experimental group's post-test. The vast majority of both groups claimed to have been looking forward to playing games, with only one exception in both groups. Also, we can note that more students agreed totally with this statement in the experimental group, causing a visible difference between the two. This result may be explained by the fact that students in the experimental group were allowed to use their mobile devices during these educational games, which may have added an extra layer of excitement to the whole experiment for them.

To sum up, the games we played during the pedagogical experiment achieved a positive feedback in both groups with little differences. According to the students in the experimental group, it seems that they were a little more excited about the games compared to the control group. As for the efficiency and motivating factor of the game, the answers got a bit more complicated and diverse. A few more students found the games efficient in the experimental group, and a visible difference was found regarding whether the games were motivating to study vocabulary or not. Overall, the reception of both traditional and digital games was pleasant and positive.

Conclusions

Games have probably been around ever since teaching evolved, and they are still present up to this day. As far as this study is concerned, both traditional and digital games have some qualities that make them unique, enjoyable and useful in a way. It is clear that games do have the power to make learning more fun and efficient, confirmed by the results of the study, even if we have involved only a limited number of participants in the experimental group and the control group of 5th grader students.

My first research question was if there was a significant difference in the results of the experimental group and the control group, keeping in mind that throughout the pedagogical experiment the experimental group practised vocabulary using digital learning apps, while with the control group I used traditional games in class. Comparing the results focusing on the indirect test items and the correct answers given to them, the experimental group showed slightly better improvement. Later on, these results were analysed with the SPSS Statistics 29.0.2.0 software, including the open-ended questions. This analysis resulted in the fact that the experimental group achieved statistically significant improvement in case of more types of exercises than the control group, and this hypothesis was confirmed to be true.

The second research question was whether digital games were more motivating to learners than traditional games. In this research, digital games proved to be more motivating in educational contexts. However, this difference, although visible, it was later confirmed not to be statistically significant. As a result, my second hypothesis was not confirmed to be right.

What I concluded based on the present pedagogical experiment is that the most influential aspect is not whether we deal with traditional or digital games, but how the whole process is planned and whether it contributes to the development of the students or not. Sky is the limit when being creative and bringing games to lessons, therefore, they can lead to extraordinary moments and great improvements, no matter what.

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