Escaping Boredom in the Classroom

Escaping Boredom in the Classroom:

Breakouts, Breakout Boxes and Escape Rooms

Edited by

Madalina Armie and Verónica Membrive

Cambridge
Scholars
Publishing

Escaping Boredom in the Classroom:
Breakouts, Breakout Boxes and Escape Rooms

Edited by Madalina Armie and Verónica Membrive

This book first published 2022

Cambridge Scholars Publishing

Lady Stephenson Library, Newcastle upon Tyne, NE6 2PA, UK

British Library Cataloguing in Publication Data
A catalogue record for this book is available from the British Library

ISBN (10): 1-5275-7775-9
ISBN (13): 978-1-5275-7775-6

Cover image by Clockedin dk found on Pixabay

TABLE OF CONTENTS

ACKNOWLEDGMENTS

The research of this project has been supported by CEI Patrimonio, University of Almería and the Teaching and Innovation Group 20_21_2_02C Storytelling and Digital Contents, University of Almería. We would like to thank research group Lindisfarne (HUM-807) from the University of Almería for the encouragement and counsel.

Likewise, we would like to extend our most sincere gratitude to our families and all contributors for their invaluable work. Finally, we would also like to make a special mention of Prof. Alexandra Santamaría and Prof. Elena Alcalde Peñalver for writing a vivid foreword for this volume, which was the icing on the cake.

FOREWORD

ALEXANDRA SANTAMARÍA[1]
AND ELENA ALCALDE PEÑALVER[2]

Gamification is undoubtedly one of the methodologies that attracts the most attention, both from the point of view of academic research and from a didactic perspective. This is because an increasing number of teachers feel encouraged to apply different techniques that allow for the delivery of content through games. In a social context in which an immediate transmission of information is required, students need constant stimuli to stay focused. In this sense, gamification is especially relevant since numerous studies have demonstrated its many advantages in the classroom, regardless of academic level or specialisation. Among these advantages, we can name an increase in participation and interaction, both with the teacher and with other classmates, which in turn favours the development of interpersonal skills, increased motivation for the acquisition of class content, and a more relaxed learning environment (Alcalde Peñalver and Santamaría Urbieta 2020; Santamaría Urbieta and Alcalde Peñalver 2020). In foreign language teaching, gamification is a resource that contributes to the development of positive attitudes among students and ultimately improves issues like error tolerance, autonomy, and experiential learning (Foncubierta and Rodríguez 2014). In previous initiatives that have demonstrated the success of applying gamification to foreign language learning, students have described the experience as "a very stimulating activity", "challenging", "different", and "a difficult and fun way to learn English", and have said that games "strengthened the relationship between partners" (Santamaría Urbieta and Alcalde Peñalver 2019).

However, despite the growing number of publications that research gamification in the classroom, we have not found previous studies that compile in a single book both the theoretical concepts needed to understand

[1] Alexandra Santamaría Urbieta is affiliated with the International University of La Rioja (UNIR), Spain.
[2] Elena Alcalde Peñalver is affiliated with the University of Alcalá (UAH), Spain.

this methodology and its components and practical proposals for English as a foreign language classrooms in secondary education. This is what is unique about this book, entitled *Escaping Boredom in the Classroom: Breakouts, Breakout Boxes and Escape Rooms,* edited by Cambridge Scholars, and we believe it offers an outstanding contribution to this field. Moreover, it is of particular interest that the included proposals have been carefully developed by professors, which guarantees their successful application in the classroom. We believe that teachers of secondary education can directly apply these examples, but that they can also be a source of inspiration for those teaching in primary schools or universities, who can replicate the techniques and the relations between different games according to the content included in their lessons.

The authors of this interesting and updated manuscript have compiled a volume in which readers can, first, gain a complete insight into what gamification entails and what it represents in today's classrooms. Furthermore, readers will learn about the components of game-based learning as well as its rules, objectives, intentions, entities, and narratives. Other sections will help readers envision the use of games in education. Many games can be used to attract students' attention. However, not many are as engaging in the classroom as escape rooms. An idea that was initially developed to be used outside of educational environments has been brought into schools, high schools, and universities, with welcome results. This situation has encouraged the use of escape rooms, breakouts, and breakout boxes in different subjects and scenarios. Who said playing in the classroom was only for children?

One of the subjects for which escape rooms have proven to be successful is foreign language learning—in this case, English. It is well known that learning a second language can become a not-so-entertaining activity if teachers do not bring the real world into the classroom or do not interrupt the monotony with engaging activities in which students use the language in different situations. The 23 proposals presented here represent a wide variety of resources and tools for escaping boredom in the classroom and encourages their use in various subjects and levels of education, all with the same results: engagement, fun, and motivation.

Culture, science fiction, video games, history, and the environment are only a few of the topics of the practical proposals developed in this book, which will guide readers through the exciting and challenging world of escape rooms in education. Who said learning English had to be boring?

Grab a pen and paper and let yourself be guided by the authors of this volume to a world where anything is possible without leaving the walls of your classroom and where students are at the centre of the learning process.

Escape from the traditional classroom and enter a world of endless possibilities. What are you waiting for? Start a journey of engagement and fun in which students are the protagonists and the English language sets the rules of the game. Escape from traditional methodologies and read about how other teachers have used game-based activities in their English as a second language classrooms in secondary education. Do you dare to try these methodologies with your students? You may even find yourself caught in the world of escape rooms and decide to create your own. Don't know how? Don't have the time or the resources to do so? Don't worry. This volume will introduce both theory and practice in new ways and provide you with all the necessary tools to use escape rooms with your students.

As educators, we are grateful to the authors of this volume, as they have brought together various practical proposals that will provide English teachers with ideas and resources for their classrooms. We encourage any teacher who wants to escape boredom in the English classroom to read this volume.

References

Alcalde Peñalver, E. and A. Santamaría Urbieta. 2020. "Enhancing Medical Translation Skills through a Gamified Experience. Failure or Success?" *Panacea XXI* 51: 4–12. https://www.tremedica.org/wp-content/uploads/panacea20-51_04_Tribuna_01_AlcaldePenalver_SantamariaUrbieta.pdf.

Foncubierta, J. M. and C. Rodríguez. 2014. *Didáctica de la gamificación en la clase de ELE.* Edinumen.

Santamaría Urbieta, A. and E. Alcalde Peñalver. 2020. "Una experiencia universitaria de gamificación en línea o en el aula presencial: ¿es este recurso de aprendizaje posible en ambos entornos?" *Revista Brasileira de Lingüística Aplicada* 20, no. 4: 761–786. http://dx.doi.org/10.1590/1984-6398202016390.

Santamaría Urbieta, A. and E. Alcalde Peñalver. 2019. "Escaping from the English Classroom. Who Will Get out First?" *Aloma* 37, no. 2: 83–92. https://doi.org/10.51698/aloma.2019.37.2.83-92.

INTRODUCTION

MADALINA ARMIE AND VERONICA MEMBRIVE

Teaching a new language nowadays requires creativity as well as a large number of attractive resources and distinctive approaches that intermingle old methodologies and new techniques. The implementation of games in education might offer answers to some quandaries regarding class planning, management, teaching and learning, since games are desirable experiences that set motivational mechanisms into motion, engage learners by adding dynamism to lessons, and foster the consolidation of content through play. As Michael Polanyi and Amartya Sens (2009) write, "true learning happens when we immerse ourselves in what we learn".

In a digitally connected society, improving the user's experience and knowledge in a concise, quick and efficient way avoids a boring and tedious reality and brings a fun approach through a series of pre-set actions. This is called gameplay or gamification, and it is starting to be applied to many activities and processes in order to drive the user and maintain a high level of motivation.

Gamification is here to stay because of the change of pace in digital society and has moved from the recreational realm to the business and educational fields. Gamification can improve competitiveness in these areas, as it represents a new way of organising processes more productively and efficiently. Gamification's impact in education is visible in training processes, and implementation is happening quickly, especially at lower levels since the use of games as active training elements has been a fun strategy in the classroom for many years. The tendency toward gamification appeared in the "Horizon Report: 2014, K–12", which recommends an educational strategy of learning through games and gamification by integrating aspects of game dynamics in contexts not related to playfulness. This helps foster students' engagement as well as other positive values. In most disciplines, games are oriented towards learning goals and include social components related to particular real-world experiences that are relevant to students' lives. The reception of gamification in education promotes the development of games specifically designed to favour experiential and immersive learning.

Gamification uses elements usually applied to videogames in contexts that are not obviously related to games to produce a more attractive, engaging and fun product or service (Deterding 2011). Burke (2012) agrees with this definition and adds that the design and techniques of gamification aim to develop particular abilities and behaviours. Similarly, Zichermann (2012) adds that gamification and its mechanics require users' involvement, and Kapp (2016) believes that gamification promotes competitiveness and cooperation. These authors agree that gamification affects motivation positively. Thus, to successfully introduce this tool to an educational environment, educators must learn about motivation. Motivation is one of the main challenges faced by educators today. Motivation refers to students' efforts and perseverance when dealing with a particular task (Garris et al. 2002). There are two types of motivation: extrinsic (triggered by external factors) and intrinsic (triggered by a person's interests). This distinction is relevant because extrinsic motivation has been used in education for many years through the grading system (Soriano, 2001). Gamification is an intrinsically motivating action that allows the design of learning and experiential situations that develop emotional and social intelligence (Valderrama 2015). It is also worth considering that Soriano (2001) defines motivation as a dynamic process in a continuous (increasing and decreasing) flux. Given that students' motivation is one of the main challenges faced by educators today, gamification can be considered a panacea for fighting discouraged attitudes in the classroom (Lee and Hammer 2011) by using elements like badges and leader boards that strengthen students' sense of achievement and progress. This has the result of fostering students' intrinsic motivation (Perrotta et al. 2013).

Different authors have defined and established the pillars and main features of gamification. Salen and Zimmerman (2004) argue that gamification activities must include three levels: creation, modification, and analysis. Thus, all tasks designed or chosen must aim at accommodating students' needs and interests. Werbach and Hunter (2012) claim that game dynamics (concept and structure of the game), mechanics (processes that develop the game) and components (particularities of dynamics and mechanics) and their interactions are the main elements of gamification. Van Diggelen (2012) describes the ten main tenets of gamification as a) type of competition (player vs system, only player, player vs player); b) timing; c) shortages (which can improve playability); d) puzzles; e) newness; f) levels; g) social pressure; h) teamwork; i) bargain chips (elements that can be exchanged); and j) renewal of power (the addition of new motivating elements). Parente (2016) argues that the "bi-directionality of interaction" should be included as another tenet of gamification since this should not be

a one-way activity from the professor toward the students but should move from the students to the professor too in order to maximise the potential benefits.

In an educational context, gamification currently has a twofold aim: "to support learning in a variety of educational contexts and subject areas, but also to address transversal attitudes and behaviours such as collaboration, creativity, and self-guided study" (Caponetto et al. 2014, 55). Similarly, Foncubierta and Rodríguez (2014) point out that the introduction of games helps solve problems such as inactivity, incomprehension, and sense of difficulty through engagement. Thus, a curricular design based on the pillars of gamification will stimulate students' interest and immersion and transform the teaching and learning process (Carolei et al. 2016). Fun and enjoyment are the keys to achieving an immersive learning experience. A learning experiences is transformed into an immersive one when students seek a wider level of knowledge of a particular topic, and gamification operates as a means to produce this "state of flow" (Perrotta et al. 2013). The state of flow, which is also featured as a driver to learning by Csikszentmihalyi (1998), challenges educators' approach to any discipline since these might delve into students' interests beyond typical lesson plans.

Gamification offers several benefits to the teaching-learning process, as numerous studies show (González 2008; Blanco 2008; Fitz-Walter et al. 2011; Barata et al. 2013; Li et al. 2013; Mora 2014). Of particular interest is Stott and Neustaedter's study (2013), which identifies four key benefits of gamification: a) freedom to fail (which allows students to learn and avoid fear, since they are offered multiple chances in the game); b) rapid feedback (because regular, directed responses are highly prevalent in games); c) progression (usually in the form of levels); and d) storytelling (the use of a narrative to frame the game, which helps encourage students' interest). Simoes et al. (2013) add that gamification motivates students and at the same time bestows attractiveness on education since it incorporates, adapts and applies game elements to make the educational context more entertaining and enjoyable. Gallego et al. (2014) link gamification to project-based learning because this teaching method aims to involve students in a wide and complex project that is in line with the needs of society and in which students play an active role.

However, gamification also presents limitations for both educators and students. For example, designing and developing specific games for educational contexts involves significant effort and, if there are students who do not show any interest in their education, gamification might contaminate the teaching-learning process (Tori 2016). Similarly, to make students feel that their education has factual value (Prensky 2005), educators

should investigate students' interests and passions and share control, promote cooperation and stimulate competition with various tools. Thus, educators need a considerable amount of time to conceive of successful gamified tasks that boost students' curiosity. It is also related to the relationship between challenges and students' capacity to carry them out (Castellón and Jaramillo 2012) since if a challenge is too easy, students will be bored, and if results are unattainable, students will become frustrated. The result in both cases is the same: a loss of motivation. Thus, an efficient and balanced design of challenges and rewards requires the attention of educators. Parente (2016) focuses on errors in the concepts and implementations of gamification in education: gamification should not be considered a game and it does not consist of using games in the classroom; it rather involves using mechanics and dynamics associated with games to present students with a series of learning challenges that result in short-term rewards according to challenge complexity. Parente (2016) also evaluates institutions and argues that when correctly implemented educational gamification must be integrated into a wider process endorsed by a multidisciplinary team that considers it a strategic initiative. Thus, a lack of institutional involvement and a marginalisation of this type of teaching tool hinder the implementation of gamification.

This volume revolves around a particular gamification tool: escape rooms. Physical or onsite escape rooms were originated in Japan around 2007–2008 and quickly became very popular, first in Asia and then across the world. This kind of joyful game was used within firms (for team bonding) and among friends. The precursor of digital escape rooms was the game Behind Closed Doors developed by John Wilson, already popular in the 1980s. This experience required the user to interact with a particular situation and solve different puzzles. Through decision-making, the user could progress through the game and win. This game did not offer impressive audio-visual content, but it was entertaining and set the standard for the digital video escape room games that would arrive some years later, and which eventually lead to the origination of live escape rooms. In 2004 Japan, the video game Crimson Room was developed. This game consisted of mysteries that were solved with different clues. Two years after that, in 2006, a group of Silicon Valley engineers launched Origin, a point-and-click game that simulated one of Agatha Christie's mystery novels. This is considered the first escape room videogame because of its dynamics and storytelling and the different clues and rewards involved in completing the game. In the aftermath of these videogames, similar experiences in which players used ingenuity and visual acuity to overcome missions gradually became popular. The main purpose of these games was to leave a room by

solving crimes through enigmatic investigations. In 2008, Japanese entrepreneur Takao Kato created the Real Escape Game (REG), a room for players to immerse themselves in a story and solve mysteries by finding clues and solving the puzzles hidden in the room to escape the room and win the game. This became the first live escape room and resulted in the current worldwide phenomenon.

Escape games are also very popular as a tourist activity. Their success in this field results from real interactions with different items, disconnection from the outside world, the excitement of the moment and group dynamics (Villar 2018, 632). In 2011, the Hungarian Attila Gyurkovics refurbished several ruined buildings to create Parapark, a series of escape rooms where visitors became the characters of a story. With the principles of escape games, visitors had to overcome different challenges to successfully escape. Parapark became very popular and the concept quickly expanded throughout Europe. Swiss professor of physics Gabriel Palacios created an escape game for his students in 2012 that included scientific elements and instruments for the first time. After that, the game was commercialised. The success of Parapark and Palacios' game led to the creation of Escapology in 2014 in the USA. Escapology offered players full atmospheres through adapted rooms in which they had to open a variety of locks with very complex enigmas hidden in the room, with a strict time limit. Escapology expanded so much that, in 2015, the Science Chanel launched "Race to Escape", a show based on this game. Since 2017 escape rooms have become very popular worldwide, and entrepreneurs have created more and more attractive and competitive games that include electronic and mechanic elements, special effects and more immersive stories. In 2019, a Hollywood studio even released the horror movie *Escape Room*, in which characters have to solve challenges to avoid being killed by a mysterious entity.

Although escape rooms and games have mostly been used in recreational contexts, "the penetration of the gamification trend in educational settings seems to be still climbing up to the top" (Dicheva et al. 2016, 2). Escape rooms are new gamified educational tools that have provoked research interest in recent years (Wise et al. 2018). Linking education and entertainment is in line with the concept of "edutainment", which refers to shows, events and radio and television programmes that include entertaining educational content (Queiroga 2007). The concept of "edutainment" was first used by Walt Disney Studios in 1948 to describe the show *True Life Adventures*. In 1973 the term was used to describe a National Geographic Society documentary series. Then, the Millennium Project, launched by Chris Daniel, popularised the concept, and it started to be applied in purely educational contexts. In the 1990s, there was an "edutainment" trend related

to video games, though this is more in line with McKenzie's term "technotainment" (2000). Singhal and Rogers (2002), while giving credit to these edutainment experiences, the concept was not validated or conceptualised. Finally, Buckingham and Scanlon (2000) defined "edutainment" as a "hybrid genre that relies heavily on visual material, on narrative or game-like formats, and on more informal, less didactic styles of address". The purpose of edutainment is to attract and hold students' attention by engaging their emotions through interactive pedagogical approaches (Okan 2003). Mainer Blanco (2006) adds that this concept also fosters brain maturation by affecting human behaviour, knowledge and intellect in the social and affective realm.

Although escape rooms represent a new model in education, their use is quickly growing in this field. Literature on the validity of the relationship between motivation and gamification in general and escape rooms in particular is still limited, since there is a gap between theory and practice (García-Lázaro 2019, 77). Similarly, there is limited literature on guidelines for implementing gamified designs (Alsawaier 2018). Due to the novelty of escape rooms, there is a scarcity of scientific evidence that examines the potential educational use of this tool in the classroom. However, there are several cases that aim at demonstrating the success of applying this initially non-educational resource to this field. First, some studies that describe the application of escape rooms in education seem to show a strong effect on students' motivation. Studies on the use of escape rooms in pre-school (Poza 2018; Yepes et al. 2020) are found in a preliminary literature review. Research on primary education includes disciplines such as physical education (Monzonís-Carda et al. 2020), maths (Zarco-Claudio et al. 2019; García-Tudela et al. 2020) and other miscellaneous subjects (Vidergor 2021). There are also studies on the use of escape rooms in secondary education in the areas of Spanish as a second language (Martín Queralt et al. 2021), technology (Ródenas-Cotillas 2019) and physical education (Segura Robles et al. 2019). There is even a study of a fully gamified school (Ayuso-Tapia 2019) and many cases of successful educational escape rooms in fields such as nursing (Adams et al. 2018; Brown et al. 2016), medicine (Kinio et al. 2018; Gordon et al. 2019), pharmacy (Cain 2018; Clauson et al. 2019; Gordon et al. 2019), physiotherapy (Jiménez et al. 2017), chemistry (Peleg et al. 2019; Vergne et al. 2019), information technology (IT) (Borrego et al. 2017), cryptography (Ho 2018), maths (Diago Nebot and Ventura-Campos 2017), programming (López-Pernas et al. 2019) and social education (Sierra Daza et al. 2019). Other studies address non-formal educational subjects such as earthquake simulations (Novak et al. 2019), criminology (Ferreiro-González et al. 2019) and radiology (Jambhekar et al.

2019). After analysing the existent literature on educational escape rooms, one can conclude that learners feel interested in escape rooms first because of their originality and innovation and then because they promote active learning, motivation, teamwork and collaborative learning. In sum, there is emergent evidence that escape rooms are being used at different educational levels and that they positively impact the motivation and engagement of students (Veach 2019; Kinio et al. 2019).

Only two studies are found on the relationship of escape rooms to the teaching of English as a second or foreign language, one in primary education (O'Brien et al. 2019) and one at the university level for a degree in translation (Urbieta and Alcalde 2019). Thus, there is a significant gap in the scientific research on the use of escape rooms to teach English as a second or foreign language. The present volume proposes to address that gap. This project has a two-fold aim: first, to establish a theoretical framework for escape rooms, breakouts, and breakout boxes. Here are introduced the manifold definitions of gamification, the advantages and hindrances of these types of resources, resources for creating escape rooms, and a template for educators who want to use these tools to gamify the teaching-learning experience. The second aim is to facilitate practical resources for educators, such as a template to support the design of an educational escape room from existing materials and examples of educational escape rooms specifically addressed to English as a second language teachers at the secondary educational level.

This volume is divided into two main parts: the theoretical part includes four sections that move from general to specific and include practical and updated studies on educational escape rooms. Chapter 1 provides the reader with a comprehensive review of gamification (both in general and in educational environments) and game-based learning. This chapter will show that the role of gamification in education has been widely studied and practised in several realms of knowledge and demonstrates the relevance and impact these innovative methodologies have had on students' engagement, motivation, retention, learning, and applied knowledge. Further, the chapter includes a thorough subsection on the manifold components that comprise a gamified activity or environment.

Considering that educators' interest in gamified educational environments is a recent trend, definitions and delimitations of terms are needed. Thus, Chapter 2 explains different perspectives on how to define three educational tools: escape rooms, breakouts and breakout boxes. Drawing limits as well as connections between these three concepts is essential because, when designing a gamified activity or course, they are usually confused, with no awareness of the fact that one gamified task can be encapsulated by another

or that these can be combined to fit an educator's main purposes. This chapter also contends with how these tools dovetail with contemporary methodologies and their impact on students' engagement. Chapter 3 introduces the reader to the more practical aspects of this volume, specifically focusing on escape rooms as an instrument for edutainment. It will then review how these gamified resources have been put into practice to teach English as a foreign or second language, particularly in secondary education. The final subsection of this chapter focuses on how to design educational escape rooms and provides wide-ranging physical and digital resources for creating an innovative experience. The chapter includes a template that can be adapted by educators when planning and shaping educational escape rooms.

The second part of the volume will consist of 23 best-practice proposals addressing secondary education, designed by professors of English. These innovative educational experiences have been designed around particular themes and grammatical concepts. Further, each educational escape room in this volume guarantees the improved practice of oral and written production and comprehension.

PART I:

THEORETICAL FRAMEWORK

CHAPTER ONE

GAMIFICATION, GAME-BASED LEARNING AND GAMES: USES, LIMITATIONS, DEFINITIONS AND POLEMICS

MADALINA ARMIE AND VERONICA MEMBRIVE

Gamification, the internet will tell you, is the future. It's coming soon to your bank, your gym, your job, your government and your gynaecologist. All human activity will be gamified, we are promised, because gamifying guarantees a whole bunch of other buzz-words like Immersion! and Emotional Engagement! and Socialised Monetisation! You'll be able to tell when something's been gamified because it will have points and badges. And this is the nub of the problem. (Robertson 2010)

Thirteen years have passed since the word "gamification" was used for the first time in 2008. It was only in late 2010 when, due to games' booming expansion in digital media and industry, the term became popular (Deterding et al. 2011, 9). From that moment on, the impact and success of gamification's merge with real life was such that, in a 2010 CNN interview, Jesse Schell[1] spoke about an imminent "gameapocalypse [,] where every second of your life you're playing a game in some way" (Sutter and Schell 2010). This prediction was not hyperbolic, and both Sutter and Schell's (2010) affirmation and Robertson's (2010) words that initiated this chapter shortly became more than truthful and prophetic. Nowadays, gamification has become a ubiquitous part of the contemporary lifestyle. The frenetic rhythm of its evolution and the growing dimension of its involvement in daily reality is due to the use of gamification in diverse fields such as "business, marketing, corporate management, and wellness and ecology

[1] Game designer, professor and visionary.

initiatives [and its attempts to] shape users' behaviour in a desirable direction" (Dicheva et al. 2015, 2). Clients, users, or—to refer to the jargon of gamification, "players"—are rewarded with benefits, badges, discounts, or virtual goods for visiting real-world shops, "'checking-in' to the mobile application" (Lee and Hammer 2011, 1) or using the webpages of the digital businesses for shopping. In other words, in this context, "[what] gamification does is allow marketers to focus on what they know best—convincing consumers to take loyalty and purchasing actions—using a powerful toolkit of engagement gleaned from games" (Zichermann 2011), improving consumerism and in this way maximising businesses' and corporations' productivity and profitability.

Due to the overuse of gamification to such ends, authorities in the field such as Ian Bogost refer to "explotationware" (2011) to define what they consider to be "a perversion of games as a mod marketing miracle". Bogost's vision is shared by other critics such as Chaplin (2011), who defines gamification as "an allegedly populist idea that actually benefits corporate interests over those of ordinary people". Likewise, Seaborn and Fels (2015) coined the term "pointsification" to refer to the "perversion", mentioned by Bogost (2011), of a system reliant on badges and prizes that sacrifices or ignores other fundamental principles of gamification and its design for the sake of sales and economic performance and customers' "instant gratification" (Toyama 2015). In the same vein, game designer and expert Margaret Robertson (2010) affirms that the oversimplified and commercial use of gamification's system of rewards, badges and prizes transforms "gamification […in] the process of taking the thing that is least essential to games and representing it as the core of the experience". For Zichermann (2011), gamification is the mechanism that enables "people get from point A to point B in their lives—whether that's viewed through the lens of personal growth, societal improvement or marketing engagement"; however, this process is void when understood in the context of commerce and marketing (Robertson 2010; Seaborn and Fels 2015). The type of gamification related to consumerism provides tools that let the consumer or player acknowledge progress and effort in the gamified experience, but these are empty formulae since they lack the pain of loss in failure (Robertson 2010) that is felt in a *proper* or c*omplete* gamified context. Moreover, the process of "advancing" in the "game" does not require a clear expression of players' skills, dexterity or choices, as they are stripped from their agency and competence. In the same way, this form of gamification strips "[the] game from [its] essential characteristics, and replaces it with a brand" (Chorney 2012, 3). By the same token, Zichermann (2011) claims that

> One of the biggest weaknesses of gamification lies in the motivation of its creators. While game designers generally credit themselves with a benevolent desire to expand consciousness, most marketing folks don't have the same inclination. So gamification efforts have come under criticism from many in the games industry for being shallow—that is, lacking the narrative quality of games made with a pure entertainment motive.

Given these starting premises, this introduction highlights the need to define not only the concept of gamification but also the elements or components that form gamification's entire system. Critical towards gamification, Chorney (2012) affirms that the term is nothing but a "buzzword thrown around in hopes of making a quick buck" (2). For many critics of gamification, this is a hot new trend which creates only uncertainties about its use, surrounded by a lot of success, but also a lot of failure due to this lack of a clear delineation of the concept not only in marketing and sales but also in many other fields, for example, those of education, health, sustainability, news and entertainment media (Deterding et al. 2011, 9). Precisely because of its extensive applications, gamification is closely linked with an always-changing list of terms with which it shares connotations and nuances of meaning, such as "productivity games", "surveillance entertainment", "funware", playful design", "behavioural games", "game layer" and "applied gaming" (Deterding et al. 2011, 9). This demonstrates how gamification "has grown within a rich bed of interacting trends and traditions in interaction design and games" (Deterding et al. 2011, 10) and that this academic term must be defined against others with which it overlaps in meaning, utility and purpose.

In order to delineate the concept, Deterding et al. (2011, 11) differentiate between "game" and "play", where the latter should be understood as a broader term than the former. The term gamification consequently belongs to a group of terms that share roots and shades of meaning, such as "gamefulness (the experiential and behavioral quality)", "gameful interaction (artifacts affording that quality)" and "gameful design (designing for gamefulness, typically by using game design elements)". It is important therefore to distinguish them from other terms with the word "play" at their root, such as "playfulness", "playful interaction" or "design for playfulness" (Deterding et al. 2011, 11). The authors of this study (Deterding et al. 2011) claim that the term "playfulness" "broadly denotes the experiential and behavioural qualities of playing (*paidia*)" (11), while "gamefulness" for them "denotes the qualities of gaming (*ludus*)" (11). Both *paidia* and *ludus* (Deterding et al. 2011, 11) must be understood as two poles of the same activity. Therefore, on the one hand, "play" can be conceived as the broader, looser category containing different types of games and denoting a free,

expressive, improvisational, even "tumultuous" activity (Deterding et al. 2011, 11). On the other hand, *ludus* or gaming captures the idea of playing, but is regulated by rules and competitive strife and is intentional, that is, motivated by goals or desires to reach particular outcomes (Deterding et al. 2011, 11). This delimitation is very relevant for understanding the criticism explored above that alluded to gamification's use in the fields of marketing and sales, since in this context, gamification is over-dependent and over-reliant on rules and goals, that is, on *paidia,* with little or no space for *ludus* (Deterding et al. 2011, 11).

Having explored both the uses and the concepts of play and the games to which it is related, it becomes necessary to define gamification. One of the first definitions of gamification described it as the use of game design elements in non-game contexts, situations or activities (Deterding et al., 2011, 9; Kolpondinos-Huber and Hilty 2015). According to Deterding et al. (2011), although "the overwhelming majority of current examples of 'gamification' are digital, the term should not be limited to digital technology" (2011) and, consequently, both gamification and game design are "transmedial categories" between digital and non-digital worlds. By paying attention to the behaviour of those actively involved in systems of gamification, that is, the players themselves, Marczewski (2012) complements this definition by claiming that gamification is "[the] application of game mechanics to non-game tasks to improve motivation, promote engagement or to drive desired behaviours" (2012) or "the use of game design metaphors to create more game-like and engaging experiences" (Marczewski 2015). In these two definitions, engagement and motivation play major roles, as they directly impact desired or non-desired behaviours. Gamification, then, proposes experimentation with rules, emotions and roles within a field, and all of these elements tie gamification to psychology, and by extension to the mechanisms of the brain. Gamification, therefore, can be described as a knitted system of elements that must work together to "expose complex, learnable systems that users can engage with to achieve personal mastery—and thus accomplish something aspirational" (Zichermann 2011).

Despite its success in other spheres like business or training, as previously mentioned, until relatively recently there had been few academic attempts to provide a definition of gamification or an assessment of its possible applications and roles in the schooling system, although the field is now thriving, with gamification and edutainment taking many shapes in classrooms all over the world and at all different educational levels. The educational use of gamification has been explored by scholars (Dichieva et al. 2015; Gee 2008; Kapp 2011; Laster 2010; Sheldon 2012; Deterding et al. 2012; Cronk 2012; Stott and Neustaedter 2013), and these studies have

contributed to theorisations of gamification and of the previously mentioned relationship between gamification and higher levels of motivation and engagement of students at different educational levels. In education, gamification must be understood as more than a mechanism that promotes desired behaviours and academic performance by using marks, prizes, or rankings, as gamification only succeeds when didactic content is integrated purposefully into the game's design. Gamification in education thus is used with clear objectives established at the beginning, incorporated into the design of the educational experience, sustained through game components and maintained throughout the game's implementation. The role and success of gamification within the educational system derives from understanding the game's design elements in relation to a variety of factors, such as the learning behaviour of students (addressed later in this chapter); previous knowledge or schemata; the contents and objectives of the subject being taught; class dynamics; and possible shortcomings caused by the availability of materials or time and space constraints, to mention a few possibilities.

In order to explain the theoretical rationale behind gamification in education, "badges" can be understood as grades regularised by a system of rewards for desired behaviours and "punishments" for undesirable behaviours, occurring both inside and outside the classroom. Homework, for example, is a good example of a behaviour or action occurring outside the institutionalised educational space. Similar to games, educational systems use grades conditioned by specific criteria that value a student's achievement of curricular objectives. Students accumulate *points* that result in a provisional or final mark. These elements of grading in formal education can be transformed into a gamified experience through which they might feel motivated and enjoy the learning process. In this context, "levelling up" in the game would be the equivalent of passing parts of the class or passing the complete subject at the end of the academic year. Furthermore, extrinsic motivation and stimuli can be transformed into intrinsic motivation, making this change a beneficial one. For Sheldon (as quoted in Stott and Neustaedter 2013), the change in language triggers a shift in perceptions of both failures and successes in the classroom so "that changing the language around grades celebrates getting things right rather than punishing getting things wrong" (1). Starting from the premise that "within the context of games, players voluntarily invest countless hours in developing their problem-solving skills for levelling up and reaching their final goals" (Gee 2008), games can then be transformed into valuable learning tools with multiple other positive side effects, as the following pages will reveal.

When implemented successfully, the advantages of transmitting and learning content through play are numerous. Frequently, games work at multiple levels since they combine both mental and physical exercises. At the mental level, students' memories and mental abilities are improved through planning and strategizing, and verbal fluency is enhanced by negotiating roles, task-planning and task-changing. Concentration ability is improved by using logical reasoning, quantitative reasoning and lateral or inductive reasoning, as actions are evaluated, decisions are made and actions performed. By extension, then, gamification increases thinking speed by improving visual perception, information processing and spatial orientation. All of these skills are used in the process of playing a game.

The nature of gamified experiences in the classroom allows one to measure both failure and success through immediate feedback. It also triggers a sense of progress and satisfaction associated with success when the game's challenges are overcome and promotes the development of personal qualities such as persistence, creativity and resilience (McGonigal 2011) when failure occurs. Although far from a panacea, gamification could transform the teaching-learning process since it maximises both processes by boosting motivation and engagement. Games are therefore behaviour-modelling experiences that cement students' confidence and improve levels of attainment, self-esteem, motivation and, crucially, attitudes towards and engagement with learning. Moreover, the implementation of games with didactic purposes in the classroom encourages sharing, taking turns, collaboration, communication, coordination, teamwork and conflict handling, essential qualities in the twenty-first century. Games also offer the chance to satisfy curiosity by reasoning and solving problems that resemble everyday challenges.

In relation to learning a second or foreign language, gamification, or the use of games with didactic ends in the classroom, promotes the assimilation of new vocabulary and the consolidation of grammatical rules (Abrams and Walsh 2014) in context, since different challenges provide chances to exercise the target content in different situations and with varied purposes. Oral communication is also improved, as oral skills are used throughout the entire experience to communicate and negotiate decisions among the different players. Written comprehension and production, present in many of the different challenges (Mazur, Rzepka, and Araki 2011; Grouling, Hedge, and Schweigert 2014), are also strengthened. Furthermore, a review of previously-grasped concepts such as historical events, historical characters, literary figures and literary products or socio-cultural aspects in the classroom provides educators with an ample amalgam of multifarious themes and materials for games. They can thereby test

students' knowledge in tandem with the already-mentioned oral and written skills, in this way helping to further improve students' command of the English language.

Regarding the challenges, disadvantages and pitfalls of gamification, it is worth mentioning the arduous design or adaption of the game itself to the class's necessities, objectives and contents, which requires attentive preparation. Implementing the ludo-didactic experience during different sessions might become a time-consuming activity for the teacher, who has to create the materials and plan the session carefully and meaningfully. Game implementation also might be hindered or face time shortages due to curriculum pressure and the compulsory and often dense contents of a course, which leave little room for additional activities or innovation. Moreover, to this must be added the fact that using games as resources for teaching can be expensive (Kapp 2012) and therefore is often inaccessible for some educative centres and teaching professionals. In relation to the figure of the educator, although new generations of trainers in education make use of new technologies and applications and have a more eclectic vision of teaching and learning processes that fuse different methodologies, instruments and resources, the implementation of gamification is a challenge; educators must transform games into meaningful curricular activities, so these professionals might need special training to learn how to successfully combine content with game elements.

From all these ideas spring other questions, such as "What are the game design elements of a gamified experience?", "What is a game?" and, more specifically in relation to education, "What is game-based learning?" and "What is a serious game?"

Serious games are "games specially built to enhance learning in a variety of areas" (Gee 2011, 223) or, in other words, "full-fledged games for non-entertainment purposes" (Deterding et al. 2011, 11). Game-based learning is a type of training that uses game elements to teach specific skills or knowledge according to set objectives to achieve a specific learning outcome, taking advantage of core content and make the teaching-learning process fun, motivating and meaningful. According to Findlay (2016), the main difference between gamification and game-based learning (GBL) is the integration of game mechanics into training content; that is, "GBL fully integrates the two, so the game is the training. On the other hand, gamification uses game elements as a reward for completing existing training modules".

This volume's main purpose is to present escape room experiences, breakouts and breakout boxes as motivating, illustrative and entertaining educative instruments. The formal constituents of games and how they

interrelate are explored in the next section through the prisms of these forms of gamification.

1.1. The game and its elements

> "It is a delicate dance between art and science, between instructional design and game design, and between play and guided discovery."
> (Hirumi, Appelman, Rieber, and Eck 2010, 37)

Due to the important presence of games throughout the life of the human being, games, their purposes and their possible applications and uses have been studied in fields such as economics, psychology, biology, sociology and culture long before being considered useful in the educational field. In *Homo Ludens* (2002), one of the canonical works on the study of games from a cultural perspective, Johan Huizinga affirms that the importance of games is such that human culture arises and unfolds in and as play (2002, 1) and this activity is as important as reasoning and making (2002, ix) for individuals' personal development. Play, for Huizinga (2002), is

> a free activity standing quite consciously outside "ordinary" life as being "not serious", but at the same time absorbing the player intensely and utterly. It is an activity connected with no material interest, and no profit can be gained by it. It proceeds within its own proper boundaries of time and space according to fixed rules and in an orderly manner. It promotes the formation of social groupings which tend to surround themselves with secrecy and to stress their difference from the common world by disguise or other means. (13)

This is why play, and games by extension, can be considered absorbing, entertaining and powerful learning activities present throughout the different stages of a human being's development. This already points to the innate nature of the activity of playing in both animals and Homo sapiens. Play, according to Huizinga (2002), is a free, engaging and appealing mechanism subordinated to and regularised by rules (or what is known as a "playful pact") between the involved parties. Games possess a social nature, although they are and can be individualistic activities as well, and they do not necessarily have any employability, purpose or usefulness (Caillois 2001, 10–11), so their seriousness is frequently questioned.

Articles and books as well as cinematographic, musical or artistical representations promote discussions around different and interesting topics while addressing knowledge in the classroom from infinite perspectives, bringing a myriad of benefits for Man the Player (Huizinga 2002, ix). With

this in mind, why not open the path for learning by using games in the classroom?

The possible application of games in education goes back in time to the ancient Greece of Plato, whose dialogues reveal that the philosopher believed leisure and, by extension, play could serve the teaching of the liberal arts, as they attracted students' enthusiasm. This was also considered the best way for adults to learn philosophy and discover new truths (Kline Hunnicutt 1990, 211). This idea of educating through play was to endure for centuries in the shape of educative games. Apart from being an important part of humans' social development, games may offer an additional interdisciplinary dimension of knowledge, as they can be used for entertaining ludo-didactic experiences that blend creativity, history, fiction and historical or contemporary characters in stories of survival, love, morality and so forth. At the same time, games implemented in the classroom might generate new knowledge, and they can bring—as outlined above in the discussion of gamification—many benefits, as "[games] expose players to deeply engaging, visually dynamic, rapidly paced, and highly gratifying pictorial experiences that make almost any sort of conventional schoolwork (especially when mediated by a lecture or text) seem boring by comparison" (Foreman 2003, 15).

It is not surprising, considering these ideas, that the ontology of games and their ludic and educative sides have been largely theorised and explored not only in terms of their benefits or advantages but also in terms of the challenging nature of their mechanics and dynamics. Salen and Zimmerman (2003) describe the term game as "a system in which players engage in an artificial conflict, defined by rules, that results in a quantifiable outcome" (96). Kelley (1988), much in the same vein, defines games as "a form of recreation constituted by a set of rules that specify an object to be attained and the permissible means of attaining it" (50). Definitions and descriptions, as can be observed, have attempted to explore the relationship between player and game and the contextualisation of this interaction within the act of playing (Juul 2005, 28) in order to understand not only how games work but also to ask questions, such as "why do humans play"? "What is the purpose of a game?" "What are the elements that are necessary for a game to be both appealing at the start of play and to prompt continued play once begun?" Considering that a game is a system, not a single and isolated unit, a good starting point to contour the state of games and gamified systems is to describe the different elements that form these knitted structures and connect the player with the activity of playing. When considered a form of edutainment, games present different elements than conventional playful activities with no didactic purpose, as the next section will reveal.