GAME-MODE ACTIVATED: BUILDING COMMUNITIES OF PRACTICE THROUGH DIGITAL ESCAPE ROOMS AS ESP TEACHING AND LEARNING TOOLS

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ABSTRACT. *Game-Mode Activated: Building Communities of Practice through Digital Escape Rooms as ESP Teaching and Learning Tools.* The paper aims to explore the creative potential and practical use of digital escape rooms as innovative and multimodal tools for the building of communities of practice within English for Specific Purposes education. Designed and customised for ESP courses, digital educational escape rooms can present a valuable opportunity to engage learners in an immersive, interactive, and collaborative experience meant to enhance the development of language and creative thinking skills. The study explores how the incorporation of escape rooms as ESP formative assessment may facilitate learning by allowing students to develop communities of practice based on experiential learning, by shedding light on the challenges and opportunities raised by this educational approach. It also analyses how the design and use of escape rooms as an effort to employ digital pedagogical competence can boost motivation among language learners while also creating a socio-emotional learning environment. In order to investigate the pedagogical

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value of escape rooms, this paper outlines the design process, the targeted learning paths, the multimodal storyline, as well as the ESP-specific content organised as puzzles, tasks, and activities embedded in the escape room. A digital escape room meant to teach and assess language, digital, and communication competences for undergraduates majoring in the Pedagogy of Preschool and Primary Education is exemplified, the study sharing results obtained from a questionnaire administered to undergraduate students based on their experience of completing digital escape room sessions. Digital escape rooms can provide impactful learning environments for a social-emotional framework of teaching ESP, while also allowing participants to bond into communities in practice where they interact by putting to test their 21st century skills.

Keywords: *multimodality, digital escape rooms, experiential learning, gamified formative assessment*

REZUMAT. ***Modul de joc activat: construirea comunităților de practică prin jocuri digitale de tip „escape rooms" ca instrumente de învățare și predare a limbajelor specializate.*** Articolul își propune să exploreze potențialul creativ și utilizarea practică a activităților escape rooms ca instrumente inovatoare și multimodale pentru construirea comunităților de practică în cadrul predării și învățării limbii engleze specializate. Proiectate și personalizate pentru cursurile ESP, escape rooms educaționale pot oferi o oportunitate valoroasă de implicare a cursanților într-o experiență interactivă și colaborativă menită să îmbunătățească dezvoltarea abilităților lingvistice și de gândire creativă. Studiul explorează modul în care integrarea camerelor de evadare ca evaluare formativă ESP poate facilita învățarea, permițând studenților să dezvolte comunități de practică bazate pe învățarea experiențială, arătând și provocările și oportunitățile ridicate de această abordare educațională. De asemenea, analizează modul în care proiectarea și utilizarea escape rooms pe baza competențelor pedagogice digitale poate stimula motivația între cursanții de limbi străine, creând totodată un mediu de învățare socio-emoțional. Pentru a investiga valoarea pedagogică a escape room-urilor, lucrarea prezintă procesul de proiectare a activităților de învățare, multimodalitatea și conținutul specific ESP organizat sub formă de puzzle-uri și sarcini de lucru. Studiul exemplifică structura și impactul unui escape room pentru studenții de licență la Pedagogia Învățământului Primar și Preșcolar, împărtășind rezultate obținute dintr-un chestionar administrat studenților bazat pe experiența lor de completare a sesiunilor de escape room. Acest tip de învățare prin escape room poate oferi medii de învățare de impact, configurând învățarea socio-emoțională pentru cursurile de engleză pentru limbaje specializate, permițând totodată participanților să interacționeze în cadrul comunităților de practică.

Cuvinte-cheie*: multimodalitate, escape rooms, învățare experiențială, gamificarea evaluarii formative*

Introduction

The plethora of innovative and interactive tools that have recently impacted language teaching approaches pave the way for teaching methodology exploration. Given that the affordances of multimodality and gamification in the English for Specific Purposes class shape a resourceful and engaging learning environment, students are more motivated to test their multiliteracy skills while advancing in their language acquisition itinerary. The language class can thus become a playing field for both instructors and learners, in which multiliteracy skills are put to the test, creativity is stimulated, and collaborative work builds communities of practice.

With the potential of immersing learners in specialised language content and motivating them to make use of language mediation, gamification is one prerequisite in designing digital educational escape rooms as learning scenarios for an ESP class. The gamified learning experience that a language instructor may facilitate enables students to pursue a customised learning itinerary while also enhancing life skills, from critical thinking to problem solving and teamwork. With a digital educational escape room as a framework for game-mode learning scenarios, language students are introduced to a holistic learning environment while also being exposed to various communication, information, and practice modes, thus mirroring their particular trends in online interactions.

More than learning in a playful manner, mutual support in learning is shaped by the micro communities of practice that are sketched within ESP classes, particularly via a gamified learning scenario. Digital educational escape rooms blend, in this respect, the thread of storytelling with multiple saplings: know-how, language mediation, collaboration, language mediation, digital skills, and communicative skills. Seeing that such a learning context needs to be designed within a digital pedagogical framework, the immersion of learners in a digital educational escape room can provide an endless and resourceful array of possibilities to practise specialised language.

It is the purpose of the current paper to explore the potential of digital educational escape rooms (DEER) in the context of teaching and learning ESP and to analyse the impact such a DEER may have on building a micro community of language practice. Using experiential learning to complete a challenge-based sequence of tasks, learners are actually immersed in a gamified formative assessment scenario. Moreover, the social-emotional learning framework that shapes the digital escape room also reconstitutes elements of the digital natives' communication trends by infusing the storyline with Netspeak, social media, and online features of language.

The aim of the paper is to exemplify and illustrate how a digital educational escape room can be structured and, more significantly, how it can tailor experiential learning for ESP learners by stimulating them to employ life skills and collaboration. The correlation between customised learning paths and learning outcomes is also analysed in an attempt to discuss the potential that DEERs, as digital pedagogical tools, have.

The theoretical framework is focused on presenting aspects related to gamified and experiential learning, social-emotional learning, communities of practice, and how digital educational escape rooms can facilitate a holistic learning framework. It is followed by a methodology section that covers the description of the DEER, the analysis procedure brief, and the research questions. To test the validity of hypotheses, the final section focuses on the analysis of a selection of responses that DEER participants (undergraduate students majoring in Pedagogy of Preschool and Primary School) provided as part of their ESP learning experience in the first semester of study. Preliminary conclusions and future directions of research are indicated in the last section, delving into how digital educational escape rooms can support micro-communities of practice in a gamified learning experience.

Theoretical Framework

The affordances that digital tools and apps provide within the context of content integration in the English for Specific Purposes class are immense. Students enjoy gamified learning environments, actively participating in content creation by using language mediation as a tool while also going through complex formative assessment processes. In this line of thought, digital educational escape rooms, as the online alternative to recreational and thematic escape rooms that have gained immense popularity during the last decade, have reached a wider audience among language instructors keen on gamifying their classes.

Escape rooms are fundamentally collaborative experiences, designed with puzzles created using a variety of apps that require active participation and contribution from each team member. Nicholson defines educational escape rooms as "a live-action team-based game where players discover clues, solve puzzles, and accomplish tasks in one or more rooms in order to accomplish a specific goal in a limited amount of time" (2015,1).

Research has indicated the manifold impact that digital escape rooms may have upon learning, stemming from an increase in motivation among learners (Fotaris & Mastoras, 2019; Huang, Kuo, Chen 2020), enhancing student engagement and collaborative learning (Kapp 2012), and fostering learning outcomes in the context of online learning (Makri, Vlachopoulos, and Martina

2021). "Based on social constructivism, according to which learners are interactively involved in team-based and collaborative activities to construct knowledge" (Makri, Vlachopoulos, & Martina 2021,3), DEERs can support resourceful learning experiences for students, immersing and engaging participants in a quest for cognitive activation.

Educational content is paired with the gaming environment via a storytelling mechanism intertwined in task-based puzzles with the purpose of facilitating learning and practice through scaffolded learning outcomes. More than using language mediation to complete the problem-solving process, participants are immersed in a challenging process of collaboration supported by the use of soft skills, digital skills, and communicative exchanges among diverse groups of learners.

> "The rules of digital escape rooms share the same criteria: participants need to break out of virtual rooms by seeking digital keys, which can be traced after solving language-based tasks, vocabulary quizzes, crosswords, puzzles, interactive listening, and reading activities. Along with these virtual keys, learners obtain clues or hints that allow them to progress from one set of challenges to the ones in the next virtual room." (Mudure-Iacob 2021,80)

Puzzles consist of any task that requires a form of decoding and problem-solving. In the context of ESP learning, these puzzles are language-based digital tasks designed to enable practice of all language skills and enhance language mediation.

Used in the educational context, DEERs can represent valid digital pedagogy tools as "problem-solving games that could provide a simulation of the real world in which students practise and develop skills and perceptions" (Li et. al. 2017,1007). A significant advantage of using DEER as formative assessment scenarios is that it activates know-how both on behalf of language instructors and learners. On the one hand, language instructors, as designers of such learning environments, need to activate their pedagogical digital competence, "as a new dimension in teachers' pedagogical skills and competences" (From 2017, 43). On the other hand, learners are stimulated to activate cognition by operating with concepts and terminology specific to the ESP course and by racing through a sequence of task-based challenges in which the communicative currency is language mediation. "By customising learning contexts and embedding formative assessment in gamified frameworks, teachers can fully expand the advantages of digital learning and create competitive study environments" (Mudure-Iacob 2020, 106).

Despite the impact that DEERs have on students' motivation, creativity, and transversal skill use, research on the pedagogical foundation is still scarce (Veldkamp et. al, 2020), particularly in the fields of language instruction and ESP course gamification. Stemming from the implementation of game design elements in non-game environments (Werbach and Hunter, 2012), gamification can be a piece of the puzzle generated by the digital pedagogical framework, thus customising the educational environment by "enhancing services with (motivational) affordances in order to invoke gameful experiences and further behavioural outcomes" (Koivisto et al. 2014, 3027). Digital Educational Escape Rooms are examples "of how gamification can be embedded in language instruction sequences, with the added value of introducing content and topic-based narratives along different tasks that require the use of integrated micro- and macro-skills" (Mudure-Iacob 2023, 76).

Occurring through a repetitive cycle of experience, reflection, and abstraction, experiential learning (Morris 2020) stands as an inclusive framework of gamified language learning, particularly in the context of ESP acquisition and practice. Experience occurs as students are immersed in a story that challenges them to solve puzzles by using critical thinking and language mediation, whereas "the process of reflection and abstraction occurs as students work together to make sense of the experience, develop new insights and understanding, and apply their knowledge and skills in real-world contexts" (Sidekerskienė 2023).

The experience of a gamified learning environment carried out as formative assessment can bring learners numerous benefits that expand the practice horizon beyond the use of language as an instrument of problem-solving. Sidekerskiene analyses the potential of DEERs in the the framework of out-of-the-box learning, "a novel learning approach that emphasises the importance of engaging students in unconventional, creative, and experiential learning activities that challenge them to think critically, solve problems, and collaborate with their peers" (2023). The quest for solving puzzles and decoding clues constitutes a phase of active exploration, allowing learners to discover in a sequential order specific scenarios in which they can practise their transversal skills and specific language content.

Experiential learning is also enhanced by teamwork, which is a prerequisite for completing the tasks in a DEER and triggers the use of a whole set of additional skills: critical thinking, communication skills, negotiation, digital skills, and mediation. By instilling engagement along the DEER, language instructors manage to facilitate learning environments in which students enjoy the opportunity for formative assessment in a jocular manner without resenting the standardised approach of in-class practice. Moreover, engagement is paired with motivation, which will enable participants to experience flow, a state of

optimal experience for learning (Csikszentmihalyi 1990). Flow becomes an ongoing motivation booster that supports engagement, which is, in its own turn, knitted into the narrative through storytelling. Likewise, storytelling adds to the potential of DEERs as gamified pedagogical tools by immersing learners in a multimodal exploration of digital settings with various challenges.

Multimodality occurs both via the tools and apps that are used in the design of DEER (from vocabulary-based apps that allow language instructors to create interactive tasks to platforms that enhance the practice of listening and speaking skills) and via the imaginary feedback that is embedded along the narrative. Experiential learning is also based on the incorporation of feedback mechanisms, which, in the context of digital escape rooms, can be delivered as clues, hints, and supportive messages, all of which are designed to support, motivate, and engage participants in task completion. Such clues and supportive messages can be inserted as multimodal representations (videos, gifs, emoji-coded clues, recordings, memes), which cater both to the Netizen identity of students and to tailoring the DEER challenge as an out-of-class experience.

The impact of teamwork on students' experiential learning process can be expanded into conceptualising a DEER as a micro-community of practice. Lave and Wenger's definitions of communities of practice (1991) have suffered considerable transformation based on the evolution of pedagogical and methodological approaches, but three core elements have been proliferated as definitory: "mutual engagement, a joint enterprise and a shared repertoire" (Wenger 1998, 73). The ESP learning framework can generate "legitimate peripheral participation" (Lave, Wenger 1991, 25) according to which students construct and maintain identities based on their belonging to specific communities of practice, thus dwelling on socialisation as a mechanism of partaking in these communities. Nonetheless, such legitimate peripheral participation occurs in the context of assessment-based and instructor-guided scenarios, whereas the role of instructors shifts towards a secondary one in the case of DEER as a form of assessment.

The trend to use DEERs as formative assessment scenarios brings forth the idea that learners can be provided with collaboration opportunities, in which a resourceful exchange and influence approach takes place, as advanced students transfer their know-how and skills in light of collaboration, thus facilitating learning for lower- level students (Haneda, 1997). The same feature that a community of practice may enhance was identified by Murphey (1997), whose concept of *near peer role model* emphasises the idea that more experienced learners can influence their peers by sharing both know-how and inducing a certain learning behaviour. In the context of a digital escape room, such collaboration mechanisms can determine more engagement as well as substitute

the instructor's feedback in a standard class with encouragement and motivation coming from the near peer role model.

A more suitable approach that can characterise the potential of digital escape rooms in the context of formative assessment and collaboration is the *community of inquiry* (Garrison, Akyol 2013). A DEER community of inquiry fosters collaborative learning, resourceful interactions that require language mediation and transversal skills, while also creating an engaging and productive online learning environment. Having the idea of community building, participatory culture, interaction, and engagement as core pillars, social-emotional learning is definitely essential for a digital escape room experience.

Research and Procedure

Entitled "Trapped inside the school", the digital educational escape room (DEER) analysed in the present paper was designed by the author in view of conducting a complex digital formative assessment for undergraduate students majoring in the Pedagogy of Primary and Preschool Education. The DEER gamified assessment session was designed using OneNote Microsoft software and it was administered online to students,who grouped in fours, had the opportunity to review the content taught along the first semester in a jocular mode, while also practising their transversal skills. The narrative thread was sketched on the principle of creating a storytelling realm in which players would mimic the behaviour of teachers in order to solve various tasks and puzzles and prove their know-how in order to escape.

The scenario of the DEER follows a hypothetical future situation, namely, that players will have to avoid being infected by a virus that makes them lose all acquired language skills (see Figure 1 below).

To escape and complete the activity, students had to use their language skills, communication, time management skills and practice to solve puzzles along the seven rooms that are topic-based: gender equality, family institution, education, addictions, therapy and treatment, conformity and obedience, and respectively storytelling. All the topics that the escape rooms are focused on have been discussed along the semestrial language courses and students have been immersed into game-based learning during each course, by solving a variety of tasks and practising their language skills via different apps and tools. Many of these apps (Flipgrid, Wordwall, EdPuzzle, Padlet, LiveWorksheets, Emoji Rebus) were also used in the design of puzzles meant to be solved by participants in order to escape the DEER, along with a set of new tools, with the purpose of triggering digital skill use.

It's the year 2030.
A 🌐 virus appeared that infects people and makes them lose all language skills.
Lucky for you that when the government declared a general lockdown, you-*the teachers*- were inside your school.
But now you're locked in there and you need to break out and save your students from losing all their English language skills.

To do that you will have to

☑ Make sure that there's gender equality among your students 👫

☑ Understand the importance of families 👨‍👩‍👧

☑ Can use teaching/learning as a tool to breakout 😀 🏫

☑ Fight addictions and provide therapy 💉

☑ Understand what conformity does in a school 🎓

☑ Tell a good story 📚

Figure 1. How it all happened. Introductory description of the DEER task.
Personal archive

The aim of the DEER is to provide a formative assessment framework in which learning outcomes are reached and in which students are required to use a medley of cognitive skills, language skills, knowledge sharing, language mediation skills, to demonstrate understanding of concepts, and ability to negotiate meaning and work in groups. One of the scopes of DEER is to face participants with puzzle-like challenges that test their capacity to use language in the analysis and interpretation of multimodal content. In doing so, critical thinking is activated to handle real-life scenarios, while language becomes the tool for communication and problem-solving.

The structure of the DEER analysed in the present paper is a sequential path-design, with participants being required to solve one puzzle which unlocks the next one until the final meta-puzzle can be solved with information gathered from all the previous sequences. The *Trapped inside the school* DEER comprises eight different rooms, each consisting of sets of tasks that generate passwords meant to unlock the next room, and clues, which will be required upon the completion of the meta-puzzle in the final room. Passwords are therefore the outcome of solving the cognitive puzzles, which "include the players' thinking skills and logic" (Wiemker, Elumir 2015, 58) and which are designed as interactive vocabulary/reading/listening tasks, crosswords, matching tasks using digital tools, whereas clues vary from emoji rebuses, anagrams, cryptograms and hidden words. The password to the meta-puzzle, whose

solving represents the completion of the DEER, consists of all clues discovered in chronological order.

The puzzles were created with a set of digital tools and apps, which meant that participants would have to combine their language mediation skills and language skills in order to solve the tasks. The tools, target language skills, topics and types of puzzles and clues in each room are exemplified in the table below.

Table 1. Distribution of target language skills and types of puzzles and clues. Personal archive

Topic-based room	Target language skills	Digital platforms, tools and apps	Type of puzzle	Type of clue
Boys and girls	Reading skills Listening skills Vocabulary skills	YouTube	Hidden letters in the text; Matching	Open answer based on listening skills
It runs in the family	Topic-based vocabulary skills	Liveworksheets Rebusclub Geogreeting	Matching vocabulary task; Decoding of idioms using emoji	Hidden text
Can you still spell and count?	Topic-based vocabulary skills	Wordwall Google slides	Word order; Fill in the blanks	Magnifying glass to reveal the missing word
Addicted or hooked?	Listening skills Vocabulary skills	EdPuzzle Fastory	Gapped text interactive task; Visual decoding of emoji rebus	Anagram
Seek therapy	Topic-based vocabulary	Liveworksheets Rebusclub	Fill in the blanks Visual decoding of emoji rebus	Anagram
Conformity	Reading skills Vocabulary skills Writing skills	Padlet Fastory	True/false task Numerical code	Visual decoding of emoji rebus
Stories are great	Speaking skills Reading skills	Google Earth Voyager Flipgrid	Recording an audio-video answer to a video-based task	Numerical code

In addition to the topic-based rooms that make the *Trapped inside the school* DEER, each sequence was linked to the previous one using a storytelling thread, represented by introductory fake social media posts as imaginary conversations between participants (who played the role of teachers) and other educational actors (students, principal, peers). Such posts, illustrated as Whatsapp printscreens (see Fig. 2 below), fake tweets, Facebook posts were intended to simulate a communicative exchange between the players and the outer world generated within the DEER. This section in each room served as a linking device as well as a preview of the topic to be covered in the room puzzles.
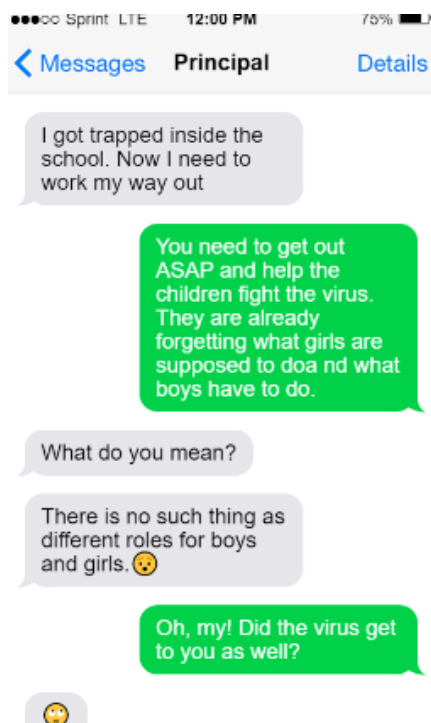

Figure 2. Fake Whatsapp post sample as introductory section in the DEER

A special emphasis was granted to tasks that required students to decode emoji rebuses (see Figure 3) both as an entertaining approach and as a means of testing vocabulary skills by asking them to find the idioms based on a code-switching conversion. Such types of tasks have been tested throughout the semester, with students growing fond of them and being competitive in decoding the idioms. More than vocabulary skills and communicative skills, learners were expected to use their creativity in finding the missing parts of the idioms and putting together the puzzles and clues.
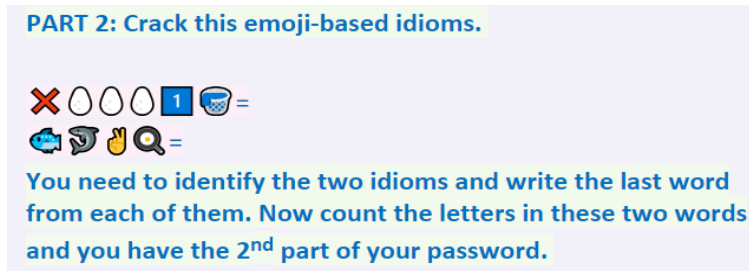
Figure 3. Fake Emoji rebus decoding puzzle.Personal archive.

The study involved 85 undergraduate students and consisted of two steps: students' collaboration in completing a digital educational escape room and filling in a questionnaire based on their playing experience.

All students were in the Pedagogy of Preschool and Primary Education, 1st year of study and completed the activity as part of the requirements in the English for Specific Purposes course they were enrolled in during the first semester of study in the academic year 2023-2024. Regarding their language proficiency level, 26% were advanced (C1-C2), 68% were B1-B2 independent users and the remaining 4% of the students were beginners (A2). Digital skill levels were rated as advanced by 65% of respondents, and intermediate by 35%.

The research procedure consisted in administering a questionnaire to students using Google Forms, in order to collect both quantitative and qualitative data Submitting the survey was voluntary; personal data was kept confidential and the participants granted their informed consent. The questionnaire has 13 questions in total, distributed as follows: 6 Multiple-choice questions, 2 Checkboxes, 2 Linear scale questions, and 3 Open questions.

Hypotheses

Hypothesis 1: DEER can foster learning outcomes as experiential learning to which students respond better than traditional formative assessment scenarios.

Hypothesis 2: Motivation via storytelling engagement influences learners' determination to complete assigned tasks in a DEER formative assessment scenario.

Hypothesis 3: Teamwork supports the building of SEL micro-communities of practice within DEERs

Results and Discussion of Results

To analyse the **relevance of DEER task content as formative assessment scenarios** and to verify whether students managed to contextualise content that had been previously introduced, respondents were asked to indicate which of the options indicated in the table below (see Figure 4) best summarised the impact that the DEER task content had related to the previously taught content. More than reviewing content learned along the semester, the DEER stimulated learners to achieve more information on the covered topics and, more importantly, to practise their knowledge in more situation-based and problem-solving tasks. The majority of respondents (68.3%) indicated that the most relevant purpose for them was that they identified the core topics and concepts and solved the DEER tasks thus allowing them to review content. Numerous respondents (48.8%) also claimed that they acquired new knowledge after completing the DEER, which indicates that, more than being a formative assessment tool, the DEER can also be designed to introduce and expand know-how. None of the respondents chose the last option in the survey, which confirms that all learners grasped the potential of such an activity to generate knowledge and produce input.
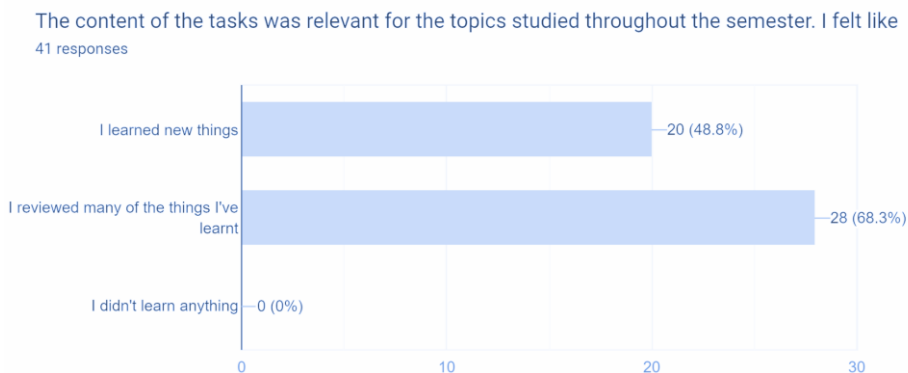

The content of the tasks was relevant for the topics studied throughout the semester. I felt like
41 responses

Figure 4. Relevance of DEER content as formative assessment

Moreover, in order to understand how participants in the DEER perceived the *acquisition of specific practical skills and learning outcomes as a result of completing this sequence of tasks,* respondents were asked to indicate whether using emoji-rebuses helps them remember idioms better or not. Emphasis had been placed on teaching collocations and idioms via various tasks

and digital tools throughout the entire semester during the ESP course. Moreover, having explored the feature of emoji coded rebuses (using the platforms The Rebus Creator Club and Fastory), students were familiarised with the process of decoding these rebuses. The fact that the striking majority of respondents (92.9%) indicated that the use of emoji-rebuses helped them better remember idioms confirms that using a non-traditional formative assessment framework such as the pictorial-based rebuses in the current DEER does have a solid impact upon the learning outcome. By completing the tasks that required them to decode idioms from emoji codes in order to retrieve passwords and clues, students showed competence both in terms of using different language registers and in use of language in the socio-emotional learning context. Moreover, based on participants' testimonies after completing the escape room challenge, negotiation of meaning was frequently used while solving these tasks, given that emoji can be interpreted with multiple connotations and finding the correct idioms required them to properly contextualise sets of words.
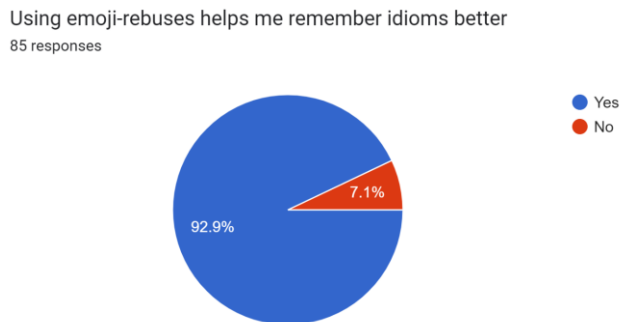
Using emoji-rebuses helps me remember idioms better
85 responses

● Yes
● No

7.1%
92.9%

Figure 5. Respondents' perception regarding the impact of
emoji rebuses on vocabulary practice of idioms

A mirroring or test question was also addressed to verify the potential of emoji rebuses as code-switching triggers validated as Netspeak features that digital native learners use when they have to switch between language registers and blend in their written communicative exchanges pictorial cues such as emoji. Respondents were asked to indicate whether they feel they know more idioms as a result of solving emoji rebuses (the question was intended to cover all previous cases where emoji rebuses had been used, but also correlate within the DEER framework, where multiple tasks and clue-based challenges consisted in such types of puzzles).

I know significantly more idioms now because I am using emoji-based rebuses
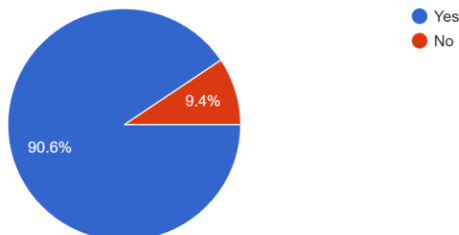85 responses

Figure 6. Respondents' perception regarding their vocabulary acquisition of idioms

With the majority of respondents (90.6%) indicating that they sense an significant increase in their acquisition and processing of idioms as a result of this game-based approach, the premise that using such a DEER framework formative assessment scenarios relying of gamified experiential learning can foster positive learning outcomes that are identifiable by both learners and instructors.

The current research has validated the fact that *DEERs are resourceful experiential learning models, which facilitate the enhancement of learning outcomes in a gamified environment that engages learners more than in a traditional learning setting.* Focussing on the manner in which language acquisition can be supported within this framework of formative assessment, participants have confirmed an increased practice of idioms throughout the DEER tasks, while also acknowledging that code-switching and language mediation were relevant tools of reaching their learning outcomes.

Another core aim of the current analysis was to investigate the *manner in which motivation can influence learners' determination in completing the tasks* embedded in the DEER. In order to do so we identified various elements related to motivation in terms of students' reaction to particular cues that would constitute motivational factors. When asked if they felt engaged in the story and the overall challenge represented by the digital escape room 92.7% of respondents gave an affirmative answer, thus confirming that engagement as a motivational trigger was perceived by participants.

In standardised gamification contexts, motivation elements occur as badges, leaderboard ranking, allocation of points and different interactive and in Netspeak- infused feedback formats (memes, social media acronyms, emoji). Considering that the current DEER bears gamification features and is rooted in

multimodality as a core design framework, some of the embedded motivational cues were various cheering messages envisaged as *pretend social media posts* which would also constitute features related to storytelling, or as *displays of avatars* representing the language instructor. Likewise, other motivational features included *specific content created* by the designer of the digital Escape room in the form of *memes* or as *audio video recordings* meant to encourage students to continue their tasks and show appreciation but also to provide relevant cues and hints throughout the puzzle solving tasks.
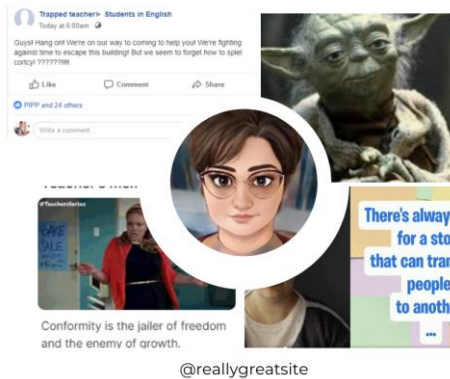

Figure 7. Collage of storytelling cues embedded in the DEER (clockwise representation: fake social media posts, memes to encourage students upon puzzle solving, gifs to introduce the topic, audio-video content, DEER's designer avatar in the centre)

Furthermore, storytelling conveyed as a multimodal mechanism of motivating DEER participants was designed as a thread that would provide both a preview of the topics covered in each room and a motivational booster in the simulated environment, thus sketching the participatory culture environment.

When asked how they perceived the fake social media posts that they could find at the beginning of each room, students replied that they consider these storytelling elements to be *funny and ironic* (61% of participants having chosen this option), whereas the remaining 39% claimed that this storytelling thread had the *purpose of introducing them to the specific topic of the room*. Their answers indicate that storytelling in the specific multimodal framework chosen for this DEER has the potential of reactivating cognition, in the sense that students found it easier to properly identify the topic under review due to storytelling cues, but they also identified the humorous side intended as as a marker of the participatory culture previously mentioned. Equally important, the fact that the purpose of these storytelling cues was properly identified to

(also) bear a humorous mark confirms that the gamified assessment scenario generates a genuine socio-emotional learning context.

To identify the elements that students particularly liked about the DEER and thus determine which were the *core motivational triggers*, one of the open-ended questions in the survey was *What did you like most about this digital Escape room*? A selection of answers are illustrated below in Figure 8 and are structured according to the common features for proper representation.
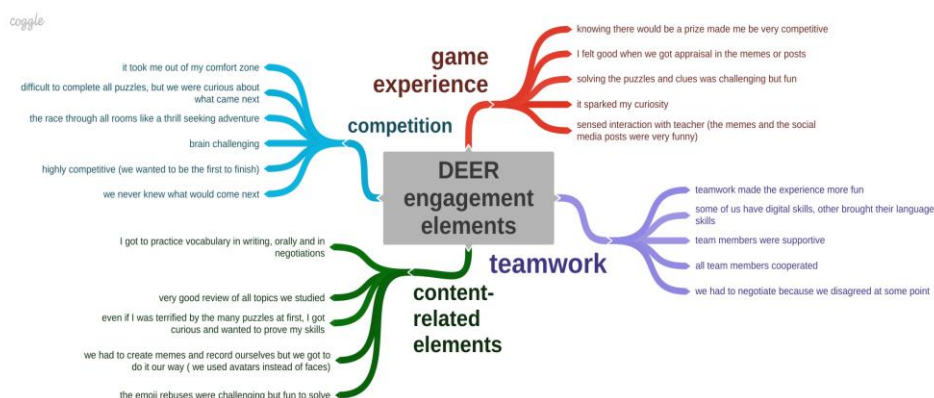

Figure 9. Perceived engagement elements. Personal archive

Many answers indicated similar features that students identified as "elements they liked in the DEER" hence the figure above shows a selection of answers grouped according to common characteristics that account for engagement elements. The first category identified as an engagement element is marked by *competition*, which is a basic gamification and motivation feature. Mirroring the experience of a competition, the DEER challenge was perceived by participants as "difficult" but fueled by curiosity, it mimicked a "thrill seeking adventure", it was "brain challenging"and forced players to leave their "comfort zone", but it also triggered them to be the first who finish the challenge. The competitive feature was also suggested by storytelling cues such as cheering posts and memes displayed within several escape rooms, intended to instil a feeling of race among participants.

Game experience, as an additional category that marked students engagement along the DEER was frequently indicated by respondents, who wrote that they were motivated by "the prize" (indicator of reward as gamified experience marker) and by "appraisal in the form of memes and social media

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posts'' (synonym with badges in a gamified environment). Moreover, "curiosity" and "challenging, but fun" were recurrent items among learners' answers, as labels of a successful gamified learning experience, just as the sensed "interaction with the teacher" through the social media posts were confirmed storytelling elements that participants appreciated.

Students also identified a series of *content-related elements* and mentioned that they "got to practise vocabulary in writing, speaking and negotiations", could do a "good review of all the topics studied along the semester" and managed to practise their idioms knowledge by solving the emoji rebuses. Another appreciated element was the type of tasks that required participants to create their own content-memes, Flip recordings- and which was perceived as an authentic challenge that allowed learners to express their Netizen identity.

Motivation stands as a core feature of gamified learning and the current research has aimed to show how motivation can be built in a DEER, stemming from engagement triggers. Storytelling becomes the knitting thread that binds the interactive tasks, creates expectations in a multimodal network, binds together engagement triggers such as game experience, content-based elements and teamwork, and maintains an imaginary connection to the language instructor as DEER designer, through the social media posts, as cues of Netizen identity building in a micro community of practice. The *hypothesis that motivation via storytelling engagement influences learners' determination to complete the DEER formative assessment scenarios has been validated in light of participants' responses, who identified core features of the gamified environment as triggers for their competitive approach towards completing the escape room.*

A socio-emotional learning environment accounts for self-regulation of emotions, accurate assessment of one's strengths and weaknesses, proper negotiation of meaning within a multicultural and diverse group, as well as the ability to manage social interactions across various contexts. In the framework of the DEER competition, *the most complex instrument of facilitating a socio-emotional framework was teamwork.* Before the start of the DEER, students were given the opportunity to form groups of three or fours and collaborate in order to solve puzzles and clues towards the final challenge of breaking out of the escape room. Some teams were created in advance, based on social affinity among students, whereas the majority of groups were formed on the spot. To investigate what triggered participants to be motivated and complete the DEER, students were asked to indicate what impact the collaboration within the team had upon their motivation to finish the escape room challenge.
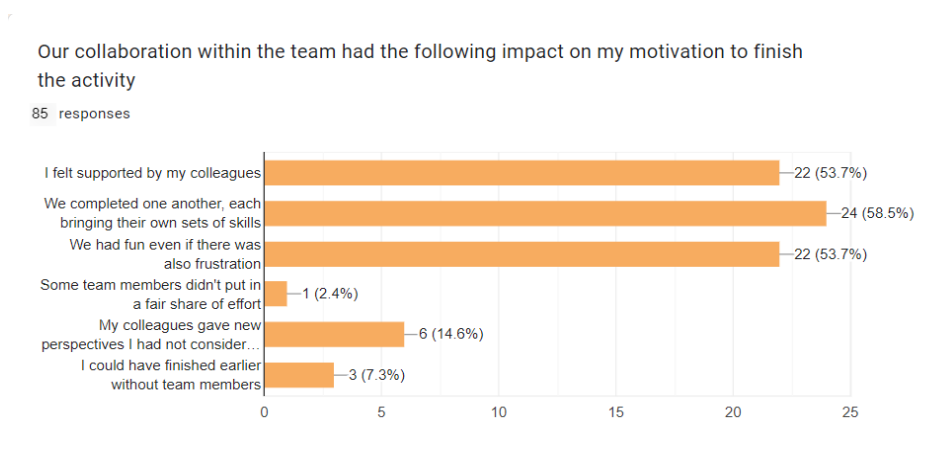
Our collaboration within the team had the following impact on my motivation to finish the activity

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I felt supported by my colleagues	22 (53.7%)
We completed one another, each bringing their own sets of skills	24 (58.5%)
We had fun even if there was also frustration	22 (53.7%)
Some team members didn't put in a fair share of effort	1 (2.4%)
My colleagues gave new perspectives I had not consider…	6 (14.6%)
I could have finished earlier without team members	3 (7.3%)

Figure 9. Impact of collaboration upon motivation to complete the DEER

As the question was a checkbox type, students could select multiple answers. The majority (58.5%) reckoned that they "completed one another, each bringing their own sets of skills", which confirms the premise that in a socio-emotional learning environment *negotiation of meaning* is paired with *management of social interactions* in contexts that might not be known to participants, as with the case of the DEER. More than half of respondents (53.7%) identified *support from their peers* as a motivational trigger, as well as having had a *fun playing experience*, despite the frustration that occurred at times. By *self-regulating their emotions and frustration*, students were able to better perform in the virtual learning context, based on mutual support. In the same line of thought, stating that some participants "gave new perspectives they had not considered" confirms that *plurality of perspectives* and the inherent *need to negotiate meaning* is enhanced by a socio-emotional learning scenario. All these elements indicate that the *near peer role model* can be a productive tool for motivational learning and practice.

On the other hand, some students (9.7% of respondents) also mentioned two negative aspects that teamwork had upon the gaming experience, namely that "some team members didn't put in a fair share of work" and respectively that "they could have finished earlier without certain team members''. These less positive experiences that students encounter are recurrent situations that learners sometimes face when working in groups/teams for different projects, with some members failing to equally contribute to the content input or to the problem-solving tasks. Though perceived as frustrating, such scenarios allow learners to better practise their negotiation and conflict management skills, which teaches them valuable lessons in terms of working within a diverse group.

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The same premise can be validated based on the open answers provided by participants in the question illustrated above where *teamwork was identified as a core engagement element, capitalising both as motivation booster and as transactional tool in a social-emotional environment.*

Conclusions

The socio-emotional learning framework in the English for Specific Purposes context is supported by the wide variety of multimodal tools and engaging teaching approaches. Gamification can sketch experiential learning scenarios, by facilitating interactional practices in order to discover the impact of learning on real-life situations, while at the same time negotiating meaning through language mediation.

Designed as interactive gamified learning scenarios, digital educational escape rooms contextualise formative assessment by customising learning outcomes in a jocular manner and in a collaborative representation. By embedding multiple skill-based tasks that learners need to solve, by juxtaposing a playful approach to specific vocabulary acquisition (as with the case of idioms in the current study) and by supporting relational engagement in task completion, DEERs become resourceful micro communities of practice. Language learning becomes an experiential quest on behalf of learners, who are challenged to pair language mediation with their use of transversal skills, thus mimicking real-life situations in which problem-solving and critical thinking become core keys of interpretation.

In addition to facilitating an experiential learning microcommunity, DEERs also delve into the influence of the *near peer role model* upon students with different language levels, stimulating and motivating them to acquire know-how and collaborate by learning. Motivation lies at the heart of the escape experience, as a trigger to engage learners in a competitive task-completion race. Learners are thus encouraged by customised storytelling cues (Netspeak infused social media fake posts to mimic communication with the teacher, mock recordings of DEER designers, memes and emoji coded messages or meaningful passwords and clues). The storytelling thread frames the micro community of practice and instil a sense of identity that can be negotiated via language mediation, but that can also serve as a motivational cue bringing a humorous twist to the storyline.

The current study aimed to analyse how DEER have a potential for drafting experiential learning through gamified formative assessment, while emphasising how language acquisition and the tailoring of learning outcomes can be supported by a gamified learning structure. Data has been collected

based on undergraduate students' impressions as a result of participating in a Digital Educational Escape Room as a formative assessment framework at the end of a semester of studying English for Pedagogy. Offering a qualitative and quantitative analysis of how DEER taks can impact the language learning experience, the study validates the initial hypotheses and confirms the practical implications for using DEER as a specific language learning scenario.

The particular contribution of the current research to the topic of pedagogical and SEL implications of digital educational escape rooms in language instruction can be categorised into the following sections:

1.Multimodality of storytelling can amplify the engagement features of DEER and motivate language learners to fully immerse in language mediation, language acquisition in a collaborative learning scenario;

2.Experiential learning is a resourceful mechanism of structuring formative assessment for students, who acknowledge the content-based input and better understand the practical implications of their learning outcomes;

3.Gamified foreign language instruction via DEERs sketches a socio-emotional learning environment in which teamwork is a core instrument for tech savvy learners, who, more than the juxtaposing language acquisition, transversal skills, learn how to mediate content in order to build on a micro community of practice.

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