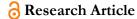
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Exploring Cadets' Perceptions of Challenges and Benefits in Gamified ESP Reading: A Case Study at a Maritime Academy

Amiruddin Hadi Wibowo^{1™}, Akhmad Kasan Gupron², Eko Nugroho Widjatmoko³, Romanda Annas Amrullah⁴, Agus Dina Mirianto⁵, Eva Rahmawati⁶, Adams Ogirima Onivehu⁷, Saifurahman Rohi⁸

Abstract

English for Specific Purposes (ESP) is essential in maritime education, helping cadets with the language skills required to meet specific learning needs. However, traditional ESP reading instruction often lacks engagement and fails to motivate learners. In response, gamification, which integrates game design elements into learning environments, has emerged as a promising solution to enhance learner engagement and motivation. This study aims to explore cadets' perceptions of the challenges and benefits of using gamification in ESP reading. The research was conducted using a qualitative case study approach at a maritime academy in East Java, Indonesia, involving 24 cadets. Participants were first-year students with intermediate English language proficiency. Data were collected through six sessions of gamified ESP reading lessons, semi-structured interviews, and participant observations. Thematic analysis was used to examine the cadets' experiences, focusing on recurring themes related to motivation, learning outcomes, and technological challenges. The results showed that cadets generally expressed positive feelings about gamified ESP reading. They reported increased motivation and engagement due to game elements such as points, leaderboards, and real-time feedback, which made learning more interactive and enjoyable. However, challenges such as limited technological readiness, internet connectivity, and initial confusion with the game interface were also highlighted. Therefore, it can be concluded that gamification shows strong potential in enhancing cadets' motivation and interest in ESP reading following the challenges and their constraints. These findings underscore the importance of integrating thoughtfully designed gamified strategies in maritime education to foster learner-centered and engaging ESP instruction.

Keywords: Cadets' Perceptions, Gamification, ESP Reading, Maritime Academy

☑ Correspondence Amiruddin Hadi Wibowo amiruddin_fbs@uwks.ac.id

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1. INTRODUCTION

English for Specific Purposes (ESP) represents an important area of English language teaching, specifically tailored to address the academic and professional requirements of students in various fields, including engineering, law, medicine, and maritime studies (Hutchinson & Waters, 1987) English for Specific Purposes (ESP) is essential in providing cadets with the language skills needed to navigate international maritime environments, where English is the common language. In the field of maritime



¹English Education, Universitas Wijaya Kusuma, Surabaya, Indonesia

²Ship Machinery Engineering Technology, Politeknik Pelayaran, Surabaya, Indonesia

³Politeknik Transportasi SDP, Palembang, Indonesia

⁴Sea Transportation, Politeknik Pelayaran, Surabaya, Indonesia

⁵Nautic Department, Politeknik Pelayaran, Surabaya, Indonesia

⁶English Education, Universitas Negeri Surabaya, Surabaya, Indonesia

⁷Department of Educational Foundations, University of Lagos, Nigeria

⁸Department of English Language and Literature, Paktia University, Afghanistan

education, Suryarini (2024), Cadets need to understand technical documents, manuals, and communication protocols, making reading skills crucial. However, the practical conventional ESP reading instruction frequently faces criticism for its lack of engagement and tendency for learners (Wibowo et al., 2024).

Gamification, which refers to the incorporation of game design elements into non-game settings (Treiblmaier et al., 2018), has become increasingly popular in education due to its ability to enhance learner engagement, motivation, and active participation. Recently, educators have started to incorporate gamified strategies into English for Specific Purposes (ESP) reading to tackle learner disengagement and foster a more engaging learning atmosphere (Wibowo & Munir, 2024). Gamified learning environments utilise elements like points, levels, leaderboards, and badges to foster both competitive and collaborative learning. These features can enhance focus and boost intrinsic motivation (Zhang & Crawford, 2024). In the context of maritime academies, gamification emerges as an innovative teaching method that offers potential benefits while also posing certain challenges. These challenges particularly relate to learners' preparedness, access to technology, and the suitability of the content being delivered.

While gamification holds significant theoretical and practical potential in English for Specific Purposes (ESP) reading, there is still a lack of empirical research regarding maritime cadets' perceptions of this method in actual educational environments. Previous research has primarily concentrated on outcomes like test performance or engagement metrics, resulting in a lack of insight into learners' personal experiences. Additionally, maritime education requires significant discipline and structure, which can sometimes clash with the more playful aspects of gamification. This study explores the perceptions of maritime cadets regarding the challenges and advantages associated with gamified English for Specific Purposes (ESP) reading. This question is significant as it can provide valuable insights for educators and curriculum developers regarding the practical effectiveness and acceptance of gamified learning tools in English for Specific Purposes (ESP) settings.

Several research efforts have investigated the effects of gamification on language learning. According to Guelai et al. (2024), the use of gamification has a beneficial effect on enhancing learner motivation and engagement in English for Specific Purposes (ESP) courses. Alsawaier (2018) highlights that although gamification has the potential to boost students' interest in learning, games that are not well-designed can lead to confusion and ultimately diminish the effectiveness of the learning experience. Iryanti et al. (2024) highlight the challenges that Indonesian maritime cadets encounter in reading comprehension, stemming from a restricted vocabulary and insufficient contextual understanding. Triantafyllou et al. (2025) stated that the effectiveness of gamification is significantly influenced by the alignment of game mechanics with educational objectives. Supasa et al. (2024) observe that although gamification is being introduced in ESP classes in Indonesia, its application remains experimental and does not yet have a systematic integration. Additionally, Cédric (2021) demonstrates that the level of technological readiness significantly influences learners' acceptance of gamified learning environments. The current circumstances indicate an increasing demand for qualitative understanding of learners' experiences with gamification in English for Specific Purposes (ESP) reading courses, especially within specialized educational environments such as maritime academies.

The importance of this research is highlighted by its contribution to the relatively small body of knowledge regarding gamified English for Specific Purposes (ESP) reading within the context of maritime education. Although earlier research has explored gamification within general language learning environments, there remains a significant gap regarding its application in ESP reading, particularly concerning the distinct experiences of maritime cadets. According to (Domínguez et al., 2013), gamification has the potential to enhance academic performance; however, they observed that its advantages vary depending on the context. Puspitayani et al. (2020) highlighted the importance of taking into account learner perceptions when applying gamification, in order to prevent mere superficial engagement. This research enhances our comprehension of how cadets perceive their educational experiences, highlighting the particular challenges they face. The results aim to guide teaching methods, assisting educators in creating more effective and student-focused ESP reading resources for maritime students (Landers, 2014). This research employs a qualitative case study method to explore cadets' views on gamified English for Specific Purposes (ESP) reading at a maritime academy. The suggested approach involves creating ESP reading modules that effectively integrate gamification with organized content, game features with educational goals, and providing sufficient technological support to improve the effectiveness of gamified learning environments, while also tackling the real-world challenges encountered by both learners and educators.

Although this study makes a significant contribution to the understanding of gamification-based ESP reading learning in maritime education environments, several limitations need to be acknowledged. First, this study only involved 24 cadets from one maritime academy so the results cannot be generalized widely to all maritime institutions or other ESP programs. Second, the limited duration of the intervention for six weeks and the qualitative design without longitudinal data make this study unable to show the long-term impact of gamification on learning achievement. Third, because the researcher also acted as an observer and interviewer, the potential for interpretive bias in the qualitative data analysis may have occurred, although data triangulation was carried out to increase validity.

Nevertheless, this study remains relevant because it addresses a specific and rarely researched context: the use of gamification in ESP reading learning in a maritime academy environment that has unique characteristics like high discipline, the need for technical competence, and limitations of the maximum use of digital technology. In this situation, gamification not only serves as an innovative learning strategy, but also as a means to bridge the gap between the conventional approach and the needs of 21st-century learning that demands active engagement, motivation, and technological adaptability. By exploring cadets' perceptions in depth on the benefits and challenges of gamification, this study is expected to be the basis for developing a more contextual, engaging, and responsive ESP curriculum to the needs of vocational learners in the digital era.

2. LITERATURE REVIEW

Gamification refers to the incorporation of game design elements into contexts that are not games, aiming to boost user engagement and motivation (Deterding et al., 2011). This approach incorporates behavioral, cognitive, and constructivist learning theories, highlighting the significance of feedback, achievement, and progression in the learning journey (Thambu et al., 2021). English for Specific Purposes (ESP) emphasizes the instruction of English designed for particular domains, like maritime communication, prioritizing the needs and contexts of learners as fundamental elements (Hutchinson & Waters, 1987). In the context of gamified English for Specific Purposes (ESP) reading, the motivation theory proposed by Deci and Ryan in 2000 is especially pertinent, as it emphasizes the importance of both intrinsic and extrinsic factors in the learning process. Incorporating gamification into English for Specific Purposes (ESP) involves harmonizing game mechanics with targeted learning objectives to guarantee both relevance and effectiveness (Ergashevna, 2018)

Since its use in education, gamification has developed into a compelling approach aimed at enhancing motivation and performance across diverse learning environments. The incorporation of gamification into English for Specific Purposes (ESP) is a fairly recent development, driven by progress in educational technology and a focus on learner-centred teaching methods (Nusi et al., 2024). The maritime education sector started to embrace English for Specific Purposes (ESP) as a reaction to the globalisation of the maritime industry and the necessity for proficient English communication among seafarers (Dirgeyasa, 2018). The increasing need for maritime professionals who are proficient in English has led to the exploration of gamified English for Specific Purposes (ESP) reading as an innovative and engaging teaching method (Gao, 2019; Wibowo et al., 2025).

Wibowo et al. (2025) found that gamified platforms like Quizizz can enhance student engagement and comprehension in reading tasks, though technical challenges such as internet access and platform familiarity may limit their effectiveness. In a similar Yaniawati et al. (2023) learner engagement and flow experiences used augmented reality and gamification. Research conducted Zhang and Crawford (2024) provided additional evidence that game elements such as badges, levels, and points had a positive impact on learner attitudes and engagement.

The role of gamification in engineering English for Specific Purposes (ESP) courses, highlighting that students valued the elements of competition and the immediacy of feedback (Guelai et al., 2024). Thus, the implementation of gamified ESP tasks led to improvements in vocabulary retention and the use of contextual language within technical English classes. According to Cédric (2021) explored the use of gamification in English for Specific Purposes (ESP) classrooms in Indonesia, shedding light on challenges such as limited resources and varying responses from learners. According to Liu et al. (2018), the implementation of mobile-based gamified English for Specific Purposes (ESP) modules has been shown

to improve students' autonomy and increase their time spent on tasks. Another study conducted by Koritarov (2024) impact of simulation-based gamified modules on enhancing conceptual understanding in Maritime Education, suggesting that these findings may also apply to ESP settings. The findings indicate that gamification serves as a versatile and context-aware approach in English for Specific Purposes education.

Studies have shown that gamification can significantly enhance reading engagement and learning outcomes by incorporating goal-setting, rewards, and interactive features, improving retention through quizzes and leaderboards, and fostering better comprehension and vocabulary acquisition (Ulfaika et al., 2025; Istiqfaroh et al., 2024; Puspitayani et al., 2020; Wibowo & Munir, 2024). Incorporating games into reading activities enhanced reading fluency and comprehension among ESL learners (Istiq'faroh et al., 2020). Alemi & Ebadi (2010) demonstrated that the use of digital badges in reading modules enhanced students' perceived value of reading tasks and their eagerness to engage role of gamification in enhancing ESP reading skills.

The maritime English, as a branch of ESP, exposed maritime cadets to understand navigation texts and discovered that task-based learning significantly enhanced their comprehension. Marudut Bernadtua Simanjuntak (2024) showed that cadets frequently showed a lack of motivation in language classes unless the material was closely tied to their future roles. Wibowo et al. (2024) emphasized the significance of experiential learning, which encompasses simulations and interactive activities, in the field of maritime education. Furthermore, Asniza et al. (2021) observed that the use of digital tools, such as gamification, significantly enhanced engagement levels among maritime students, particularly when lessons incorporated real-world scenarios. These studies highlight the importance of adopting innovative and engaging teaching methods for maritime cadets.

Djiwandono (2018) found that the attitudes of learners towards gamification differed depending on the context and the quality of its implementation. Cakrawati (2017) highlighted that positive perceptions among learners were associated with the perceived relevance and usability of game elements. Bicen and Bernik et al. (2018) found that students experienced increased motivation and satisfaction in gamified classes when their efforts were acknowledged. According to Alsadoon et al. (2022), gamification systems have the potential to enhance feelings of accomplishment and independence. Another study conducted by Ibarra-Herrera et al. (2019) revealed that learners valued gamified elements such as storytelling and interactive choices, which strengthened their emotional engagement with the content. The results indicate that grasping learners' personal experiences is essential for creating effective gamified ESP reading modules.

Gamification ought to be employed as a pedagogical tool instead of merely an entertainment feature, but also underscores the necessity of thoughtful design prior to the implementation of gamified learning interventions (Cheng et al., 2023). Students learning English for specific purposes show a favourable reaction when game mechanics are combined with content that is pertinent to their future careers (Páez-Quinde et al., 2021; Domínguez et al., 2013). Gamified learning enhances reading skills in technical English by fostering engagement and encouraging repeated exposure (Miangah, 2012). Maritime cadets encounter unique challenges that can be effectively tackled using contextualised and interactive learning approaches (Gao, 2019; Simanjuntak, 2024; Kwartama, 2024). The perceptions of learners are crucial in assessing how effective gamified tools underscoring the importance of thoughtful implementation (Sardar, 2024; Ismail et al., 2020).

Although many studies have investigated gamification in language learning and English for Specific Purposes (ESP), there is limited research focusing on the perceptions of maritime cadets regarding gamified ESP reading. Furthermore, many studies focus on quantitative results, often overlooking the qualitative aspects of learners' experiences. This research seeks to investigate how cadets perceive gamified English for Specific Purposes (ESP) reading within the setting of a maritime academy. This aims to offer qualitative insights that enhance the current quantitative findings in the field. This study focuses on the issue of insufficient learner engagement and motivation in traditional English for Specific Purposes (ESP) reading among maritime cadets. This research explores the potential of gamified methods to address these challenges by analysing the experiences of cadets.

3. METHODS

This study used a qualitative case study design (Cresswell, 2014) to explore cadets' perceptions of the challenges and benefits of using gamification in English for Specific Purposes (ESP) reading instruction. An instrumental case study was chosen because this study aimed to gain a broader understanding of the application of gamification in ESP learning through one representative context, namely the maritime academy. This design allowed the researcher to conduct an in-depth exploration of the cadets' subjective learning experiences, in line with the research objective of understanding how gamification instruction affects their motivation, engagement, and comprehension. The study was conducted at the maritime academy, a maritime higher education institution located in East Java, Indonesia. This location was chosen because the institution actively implements digital and relevant learning strategies in the context of maritime vocational education. A total of 24 cadets participated in this study. They were first-year students with intermediate English language proficiency, based on the results of previous ESP course assessments. The criteria included cadets who had previous experience in ESP reading instruction, both conventionally and digitally. Cadets who did not have such experience or were unable to attend all sessions were excluded from the study.

Data collection was conducted over a period of six weeks, in the even semester of the 2024/2025 academic year (February–March 2025), through six 90-minute ESP learning sessions that integrated gamification-based reading assignments. To gain an in-depth understanding of the cadets' perceptions and experiences, the researchers used semi-structured interviews, conducted at the middle and end of the intervention, and participant observation during the activities.

Data were analyzed using thematic analysis (Braun & Clarke, 2006), which includes six stages: understanding the data, coding, developing themes, reviewing themes, defining and naming themes, and compiling a report. Triangulation of data from interviews, observations, and questionnaires was conducted to increase the validity of the research results. All responses were analyzed; two initially incomplete interviews were then completed through follow-up questions in the final interview session.

4. RESULTS

4.1 Findings of Gamified ESP Reading

The findings of this study show significant insights into the cadets' perceptions of gamified ESP reading within a maritime academy context. The qualitative data collected from interviews, observations, and interactive tasks over six meetings with 24 cadets reveal both positive and negative experiences of gamified learning. From the data collected, several recurring themes emerged, reflecting the complexities of the cadets' experiences with gamified ESP reading. These findings were categorized into four major themes:

4.1.1. Motivation and Engagement

The role of motivation in gamified learning environments is well documented, and this showed similar patterns. Cadets expressed that the game-like elements, such as earning points, leveling up, and competing on leaderboards. This activity enhanced their motivation to engage with ESP reading tasks.

Cadet 1 said, "I wanted to be at the top of the leaderboard because it made me feel challeged."

This competitive drive aligns with research by Deci and Ryan (2000), who highlight the intrinsic motivation that game elements can stimulate. As supported by Alsadoon et al. (2022), gamified learning environments often lead to increased learner engagement, as they transform traditionally passive learning activities into interactive, participatory tasks.

The gamified elements served as external motivators, but they also acted as mechanisms for immediate feedback, which is essential for reinforcing learning behaviors. Feedback in real-time allows cadets to track their progress and adjust their strategies by maintaining student engagement. The following shows the result of the questionnaire on Motivation and Engagement in Gamified ESP Reading.

	Statement	Disagree	Agree	Very Agree	Strongly Agree	Total
1.	The gamified elements (points, levels, leaderboards) increased my motivation to read ESP materials.	2	4	10	8	24
2.	I felt more engaged during lessons that used gamified reading tasks.	1	5	12	6	24
3.	Competing on leaderboards made the learning experience more exciting.	2	6	10	6	24
4.	Earning points or rewards encouraged me to participate more actively.	3	5	11	5	24
5.	Real-time feedback (scores or instant results) helped me track my learning progress.	1	4	12	7	24

Table 1. Motivation and Engagement in Gamified ESP Reading

Table 1 shows that most cadets responded positively to the motivational and engaging aspects of gamified ESP reading. A total of 18 out of 24 cadets either "very agree" or "strongly agree" that gamified elements such as points, levels, and leaderboards increased their motivation to read ESP materials. Similarly, 18 cadets also felt more engaged during lessons with gamified tasks, indicating that these elements successfully captured their attention and interest. The competitive aspect of leaderboards was viewed as exciting by the majority, with 16 cadets selecting "very agree" or "strongly agree." Additionally, 16 cadets agreed that earning points or rewards encouraged them to participate more actively in class, while 19 cadets appreciated real-time feedback as a helpful tool to track their progress. Overall, the results suggest that the gamified environment effectively boosted motivation, participation, and engagement among the cadets during their ESP reading sessions.

4.1.2. Learning Outcomes

Another prominent theme identified was the impact of gamification on learning outcomes, particularly in the acquisition and retention of technical vocabulary and comprehension of maritime English. Cadets reported improved vocabulary retention due to the repetition and reinforcement provided by the gamified reading exercises.

Cadet 2, 'I remember the terms more easily because I kept seeing them during the game. It felt like I was learning without the pressure.

Gamification increased engagement and learning retention by presenting tasks in an interactive format. The gamified elements helped cadets better understand complex maritime texts by contextualizing learning in a dynamic and competitive environment (Prados Sánchez et al., 2023). Furthermore, cadets highlighted that the game-based activities required them to process the reading material more thoroughly, as they had to answer questions or complete tasks that tested their comprehension. This active engagement, according to Azmi and Ashari (2017), plays a crucial role in improving reading comprehension and learning outcomes.

Table 2 shows that cadets generally perceived the gamified reading tasks as beneficial to their vocabulary retention and reading comprehension in maritime English. Most cadets (20 out of 24) agreed or strongly agreed that gamification helped them retain technical vocabulary more easily, while 18 cadets felt that the game-like elements reduced pressure during learning. In terms of understanding complex maritime texts, 20 cadets indicated that gamified tasks supported their comprehension, and the same number reported deeper engagement with the reading material due to the interactive activities. Additionally, 19 cadets agreed that completing questions during the game improved their overall reading comprehension. These findings suggest that gamification not only enhanced learning outcomes but also created a more engaging and supportive environment for ESP reading.

Statement		Disagree	Agree	Very Agree	Strongly Agree	Total
1. The gamified reading tasks helpe	d me retain technical	1	3	12	8	24
vocabulary more easily.						
2. I felt less pressure while learning	new terms because of	2	4	10	8	24
the game-like elements.						
3. The gamified tasks helped me un	derstand complex	1	3	10	10	24
maritime English texts better.						
4. The game-based activities require	d me to engage more	1	3	12	8	24
deeply with the reading material.						
5. Completing questions or tasks du	ring the game improved	1	4	10	9	24
my reading comprehension.						

Table 2. Impact of Gamification on Learning Outcomes (Vocabulary Retention and Comprehension)

4.1.3. Challenges with Technology and Access

Despite the advantages, some cadets reported difficulties with the technical aspects of the gamified reading platform. Challenges such as connectivity issues, unfamiliarity with the interface, and difficulties navigating the game mechanics hindered their participation.

Cadet 3 said, "I had trouble logging into the system the first few times, and the game interface was confusing at the start."

This theme underscores the importance of providing adequate training and support for cadets before the introduction of any gamified learning tools. Previous studies, such as those (Kao, 2022) have highlighted that technological issues can detract from the learning experience if not addressed effectively.

The findings also point to the need for more accessible technologies. In some instances, the lack of suitable devices or reliable internet connections impeded cadets' ability to fully engage with the gamified activities. These challenges suggest that before implementing gamified learning, careful consideration must be given to the technological infrastructure available to learners. The following table shows a questionnaire designed to capture cadets' perceptions related to the technical challenges of using gamified reading platforms.

	Statement	Disagree	Agree	Very Agree	Strongly Agree	Total
1.	I experienced technical problems (e.g., login, bugs) when using the gamified reading platform.	2	5	9	8	24
2.	I found the game interface confusing or difficult to use at the beginning.	3	6	8	7	24
3.	I needed more training or guidance to use the gamified platform effectively.	4	5	9	6	24
4.	Poor internet connection affected my participation in the gamified reading activities.	5	4	7	8	24
5.	The device I used (laptop/smartphone/tablet) was not fully compatible with the platform.	6	5	7	6	24

Table 3. Cadets' Perceptions Related to the Challenges of Using Gamified Reading Platforms

Table 3 shows cadets' responses to technical challenges encountered during gamified ESP reading sessions. The majority of cadets (24 in total) acknowledged at least some level of difficulty with the platform. A notable number (9 very agree, 8 strongly agree) reported experiencing technical problems such as login issues or software bugs. Similarly, 15 cadets (8 very agree, 7 strongly agree) found the game interface initially confusing, indicating a learning curve with the platform's navigation. More than half of the participants (9 very agree, 6 strongly agree) felt they needed additional training or guidance to use the gamified tools effectively. Internet connectivity was also a common barrier, with 15 cadets (7 very agree, 8 strongly agree) admitting that poor connections disrupted their learning experience. Additionally, 13 cadets (7 very agree, 6 strongly agree) reported that their devices were not fully compatible with the platform, which further hindered access. These findings highlight the importance of ensuring both digital readiness and reliable infrastructure when implementing gamified learning environments.

5. DISCUSSION

The primary aim of this study was to explore cadets' perceptions of the challenges and benefits associated with gamified ESP (English for Specific Purposes) reading at a maritime academy how gamification affected the motivation, engagement, and learning outcomes of cadets in the context of ESP reading. Through a combination of interviews, questionnaires, and observations, the study found that gamified reading activities significantly enhanced student engagement, motivation, and the retention of maritime-specific vocabulary. However, the research also revealed several challenges, particularly related to technological difficulties and perceptions of the gamified system's competitive elements. Despite these challenges, the overall findings suggest that gamification has a positive impact on ESP learning, there was improvement in engagement, learning outcomes, and the challenges faced, will be discussed in more detail below.

5.1. Significantly Improved Student Engagement and Motivation

One of the key findings from this study is that gamification significantly increased the cadets' motivation and engagement in ESP reading tasks. Cadets reported that the incorporation of game elements such as rewards, points, and leaderboards made reading exercises more enjoyable and competitive. The research found that these elements transformed the often monotonous and passive activity of reading into a dynamic, interactive experience that motivated students to perform better. By making learning more enjoyable and rewarding, gamification taps into both intrinsic motivation (the desire to learn) and extrinsic motivation (the desire to achieve rewards or recognition). The cadets were more inclined to complete tasks and engage with the content when they could visualize their progress and compete for rewards.

For example, one cadet mentioned, "Before, I struggled with staying focused on the reading material, but with the game elements like points and levels, I found myself pushing to finish more tasks to earn rewards." Such responses suggest that gamification encourages continuous engagement, especially when learners feel that their progress is being tracked and acknowledged.

Further supporting this, Simanjuntak (2024) found that gamification enhances student engagement in educational settings by making learning more interactive and motivating. In this study, gamification provided cadets with a tangible sense of achievement, which helped to increase their participation in the learning process. The motivation was particularly strong among students who had shown less interest in traditional reading assignments, highlighting the effectiveness of gamification in transforming the way students engage with ESP content.

5.2. Improved Learning Outcomes and Retention of Technical Vocabulary

The study also found that gamification significantly improved cadets' learning outcomes, particularly in their ability to retain and use technical maritime vocabulary. The use of interactive reading exercises combined with competitive and cooperative elements helped cadets to engage more deeply with the material. As they participated in the gamified tasks, they were more likely to remember and correctly use key maritime terms in both written and spoken communication. This aligns with findings by Ratnasari et al. (2019), who demonstrated that game-based learning promotes contextual learning, which enhances vocabulary retention.

For example, cadets who participated in gamified reading activities performed better on tests that measured their knowledge of maritime vocabulary. One cadet noted, "I can remember the terms better now because I learned them while playing the game, and I had to apply them in the context of the game." This suggests that gamification facilitated both the acquisition and retention of vocabulary, as students were not simply memorizing words but applying them in real-life contexts, thus strengthening their understanding.

The positive impact on learning outcomes is also consistent with research by Alsadoon et al. (2022), who found that gamified learning environments help students remember and use new information more effectively. This finding highlights that the active participation encouraged by gamification leads to deeper cognitive engagement with the material, which is crucial in the context of ESP, where specialized vocabulary is fundamental for effective communication in the maritime industry.

5.3. Challenges with Technology and Platform Familiarity

While gamification was generally well-received by the cadets, some students encountered challenges related to the technological aspects of the gamified learning platform. Several cadets reported issues with internet connectivity, difficulties navigating the platform, and glitches in the system that disrupted the flow of the game. These technological challenges led to frustration for some cadets, particularly those who were not familiar with digital learning tools. This aspect of the study is crucial because it points to the importance of ensuring that learners are adequately prepared and supported in using the technology required for gamified learning. Zhang and Crawford (2024) highlighted that the integration of digital tools in education requires careful consideration of the learners' technological competencies. In the maritime academy context, where many cadets may not be fully comfortable with digital platforms, providing sufficient technical training and support is essential for maximizing the benefits of gamification.

For example, one cadet expressed frustration, saying, "I wanted to continue playing, but my connection kept dropping, and I missed some of the points." Such challenges indicate that technological issues can significantly hinder the gamification experience, especially if students are not accustomed to using digital tools effectively. These findings suggest that while gamification has many benefits, its success is closely tied to the technological infrastructure and support provided by the educational institution.

5.4. Mixed Reactions to Game Mechanics and Pressure to Perform

Another important finding was the mixed reactions to the competitive elements of the gamified system. While some cadets enjoyed the challenges and rewards associated with the game mechanics, others felt that the focus on points and leaderboards created pressure to perform. Some cadets expressed concern that the competitive nature of the game detracted from their focus on learning and caused unnecessary stress. As one cadet explained, "I sometimes feel like the game is more about winning than actually learning the material. It makes me anxious when I see my name on the leaderboard." This feedback suggests that not all cadets responded positively to the competitive nature of the gamified system.

For students who are more focused on intrinsic learning goals rather than extrinsic rewards. The competitive environment may detract from the learning experience for some students, highlighting the need for educators to carefully balance game elements to suit a range of learner preferences and reduce unnecessary stress.

6. CONCLUSION

This study shows that gamification can make a real difference in how maritime cadets learn English for Specific Purposes (ESP). By turning reading tasks into games, providing points, levels, and competition, the cadets felt more motivated, engaged, and found it easier to remember technical vocabulary. They enjoyed learning in a way that felt less pressured and more interactive. However, technological challenges such as connectivity issues and unfamiliar interfaces, and varied responses to competitive features indicate that gamification is not universally effective without adequate preparation and support. While the study demonstrates the potential of gamification in ESP instruction, its scope is limited to one maritime academy. For future research, exploring long-term impacts and adaptation in other professional domains is recommended. Practically, educators are encouraged to integrate gamified learning thoughtfully, ensuring technological readiness and accommodating diverse learner preferences to maximize its benefits in enhancing ESP learning experiences.

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