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A SYSTEMATIC REVIEW OF THE ROLE OF GAMIFICATION IN TECHNOLOGY-ENHANCE STUDENTS' ENGLISH WRITING SKILLS

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ABSTRACT

This systematic review inquires the impact of The Role of Gamification in Technology on enhancing the students' English writing skills. It shows how technologies, provide immediate feedback on grammar, punctuation, and style, facilitating efficient revisions and fostering creativity through brainstorming and vocabulary suggestions. The review emphasizes personalized learning experiences by analyzing individual writing patterns, which allows for tailored resources that increase student engagement and motivation. Using the Preferred Reporting Items for Systematic Review and Meta-Analyses (PRISMA) 2020 checklist, the study evaluates 30 peer-reviewed articles published in 2024, revealing that gamification promote collaboration among students through peer feedback and shared projects, enhancing critical thinking and communication skills. Additionally, Gamification improves accessibility for learners trough some games or videos. The findings suggest that as Gamification evolves, its integration into language education will significantly enhance teaching methodologies and learning outcomes.

Keywords: *Gamification, TELL, Writing Skills*

BACKGROUND

This systematic review paper examines matter concerning the educational utilisation of The Role of Gamification in Technology-Enhancing Students' English Writing Skills. In other words, it is a paper that provides an overview of the way that Gamification is capable of supporting the process of writing skill from the students. This will commence with the definition of Gamification especially in the used of enhancing English language skill. It also discusses how the Role of gamification utilised to support the enhancing of students' writing skills. Gamification can be understood as an elaborate mixture between aspects of services and gaming and has been extensively used in marketing to ensure continued use of the platform (Kusumawardani et al., 2023).

Gamification can help students in enhancing their writing ability. The use of Games in educational institutions toward language L2 learning involves pedagogical approaches, methodologies, and strategies. Gamification in education is an approach which is being developed at a rapid phase to engage and motivate the students by incorporating game design elements in the educational institutions (Prathyusha, 2020).

There are another benefits of gamification. According to Mirzaie et al. (2022), Gamification in learning alleviates some current educational difficulties, including decreased student engagement, motivation and a lack of cooperation among students. As a result, gamification can enhance students' engagement, increase their motivation toward learning, promote collaboration among peers, aid with knowledge retention, provide instant feedback, and establish a positive, personalized learning environment.

Finally, this systematic literature review (SLR) was done to comprehend the perspectives of various scholars on the usefulness of Artificial Intelligence in enhancing the students' writing skills. As

mentioned earlier, this paper will highlight the effect of gamification in students' language learning, particularly on students' writing skills.

Due to technological development and advancement in the world, digital tools and appliances have started to become commonplace, especially in the classroom, and this presents an opportunity to expand the abilities of students to learn to write efficiently using gamification. Hence, as a result, the objective of this paper is to examine the role of gamification in technology-Enhancing students' writing skill in learning English. The main research question is as follows "What is the role of gamification in technology- Enhancing students' English writing Skills?".

RESEARCH METHOD

The Preferred Reporting Items for Systematic Review and Meta-Analyses (PRISMA) 2020 checklist was used to conduct this systematic literature review. The PRISMA checklist includes 27 criteria to help with transparency in a systematic review. A systematic review aims to bring evidence together to answer a pre-defined research question (Pollock & Berge, 2018).

The goal of this systematic literature review is to provide readers a better understanding of the function of gamification in technology, particularly in terms of improving students' writing abilities. The information that was accessed for review consisted of electronic journals. This study is premised on a systematic analysis of articles sourced from a main database. The processing of the literature was done based on journals dated between 2024. Hence, in this study, the researchers utilised four phases to carry out the analysis. These include the identification phase, screening phase, eligibility phase and lastly, inclusion phase.

Phase 1: identification phases

This stage of the systematic review involved identifying relevant work. This phase consisted of two main processes. The first stage involved collecting relevant articles and choosing suitable articles premised on what is termed inclusion and exclusion criteria. Studies like this may exhibit the limitation of publication bias. This research process did not involve the analysis of literature from sources other than journal databases, such as book chapters, white papers and technical reports.

Therefore, the research was focused on analysing journals that are peer-reviewed become the sources. The primary databases used for this study was from some online journals, as shown in Table1. Furthermore, the papers that were used in this systematic review were published between 2024. Given the increasing rate of scientific papers being produced, today's evaluations of the literature must be aware not only of the broad direction and achievements of an area of research but also of the most recent findings in order to avoid becoming out-of-date. There was a combination of various keywords that were used in this process. These include role of gamification, writing skill in education and gamification in enhancing students' writing skills.

Table 1. Source of journals.

JOURNAL SOURCE	QUANTITY
JLLLT	1
The 3rdEnglish National Seminar	1
JET	1
SIMKI Pedagogia	1
IJRCS	1
JE	1
SEMARAK ILMU	1
JELTL	1
Berajah Journal	1

IJRSM	1
HJER	1
SNKP	1
MPEJ	1
iiCET	1
JOLLY	1
semaTIK	1
LEARN	1
JBI	2
AECT	1
ERIC	1
SCIENCEDIRECT	2
TANDFONDLINE	2
ACM	1
IEE Explore	1
JEP	1
IJRAR	1

Phase 2: screening phases

As the suitable papers in the online journal was choosen, duplicates were discovered and removed within a week. The papers were then re-examined to ensure that the remaining articles met the researcher's requirements.

Phase 3: Eligibility phases

The gathered papers were reviewed for eligibility in the third phase, where they had to match the criteria outlined in the table a's inclusion section. This is a critical step in ensuring that the data collected in this study were of high quality and dependability.

Table 2. Inclusion Criteria

Inclusion
The role of gamification in Writing skill
Research methodologies: quantitative, qualitative and mixed method
Sample or responden various levels of education
Journal Articles published in 2024

The papers chosen focus on researchers who utilised Artificial Intelligence to enhance students' writing skills. The papers were vetted in accordance with the criteria outlined in figure 1

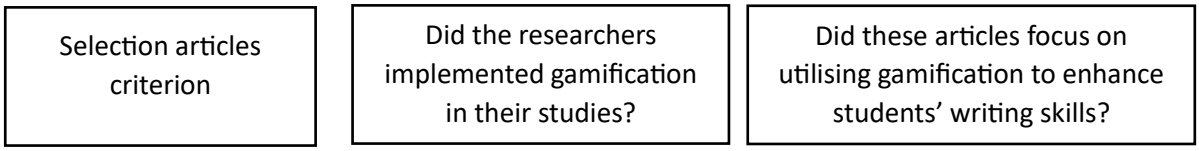


Figure 1. Assessment criterion in choosing articles

Phase 4: Exclusion Phase

After checking the articles who eligibility in the third phase, the remaining articles were exclude from this systematic literature review. The criteria of the exclude articles are stated in Table 3. The exclusion step, like the eligibility step, was crucial in ensuring that the researchers collected high-quality data.

Table 3. Exclusion Criteria

Exclusion
The role of Gamification was not implemented in Writing skill
Teaching and learning which did not used Gamification
Articles not published in 2024

There were 30 articles provided information about the role of gamification in enhancing students' writing skills. Most of the analysed articles showed the combination of quantitative, qualitative, and mixed-method type studies as depicted in Table 4. The respondents from all of the studies included all levels of education from primary until university level.

Table 4. Quantity of journals based on research design

Research Design	Quantity
Quantitative Design	5
Qualitative Design	8
Mixed-Method Design	4
Review of Literature	13



Figure 2. The way of sythesize

RESEARCH FINDINGS

The findings of the research papers will be reviewed in-depth in this section. Many different researchers have presented research on the role of Gamification in enhancing students' writing skills, and the best and most seminal of these research papers are described in Table 5 below.

Table 5. Main Characteristics, Perspectives and perception of using gamification in technology-enhance in improving students' writing skills

Authors	Territory	Study Purpose	Participants	Discussion
Rita Wong Mee Mee, Tengku Shahrom Tengku Shahdan, Md Rosli Ismail, Khatipah Abd Ghani, Lim Seong Pek ,Wong Yee Von, Adelaide Woo, Yugeshineey Subba Rao	Malaysia	This study aimed to explore views of 33 pre-service teachers in using gamification in language teaching during their 16-week internship at local primary schools around Selangor, Malaysia.	33 pre-service teachers at local primary schools around Selangor, Malaysia.	The data collected was then analysed and presented in the form of tables. The results showed that integrating gamification into language learning improved learners' creative, critical and problem-solving skills. Thus, interesting and engaging activities spark learners' interest in language learning subconsciously.
Joana Dias		to observe an increase of students' participation in classes, an increase in the percentage of approved students and a better assessment of the course made by the students.	English language educators and learners.	Although Moodle can support some gamification elements, like progress bars, display of quiz results and badges, for instance (Henrick, 2015), Moodle is not the best platform to support a truly gamified course. The downside of choosing such a gamification approach is the very significant increase of workload related to the course. This has mainly to do with the fact that feedback on so many activities has to be given, as soon as possible and continuously throughout the semester, compared with having to assess written tests twice a semester.
Charles Baah1 *, Irene Govender2 and Prabhakar Rontala Subramaniam2	United States	This research added to the existing discussion on the use of ARCS and SDT to explain why students are motivated to learn when gamification	60 students who participated in a gamified course utilizing a closed-ended questionnaire. The students were chosen using a random sampling method.	This study aimed to: ● explore the role gamification plays in motivating students to learn ● discover the significant determinants that explain the impact of gamification on students' motivation to learn. Data received from 56 students were used to test the model. Five constructs from ARCS model and SDT theory were utilised to create the model.

		is used in universities.		
Elizabeth A. Freudmanna , Yiorgos Bakamitsosb	USA	This paper examines gamification's role as a communication and customer engagement tool for non-profit organizations	English language educators and learners.	In this paper focused on how game structure is unique in its ability to deliver messages in a palatable, digestible, even enjoyable way. We identified that non-profit missions are either focused on encouraging the adoption of a positive behaviour or the avoidance of a negative behaviour. More specifically, we further subdivided the types of mission statements into Scenario 1) behaviour adoption with immediate feedback, and Scenario 2) behaviour adoption with benefits that won't be realized in the short term, and Scenario 3) behaviour avoidance with potential—though not definite—immediate rewards and Scenario 4) behaviour avoidance where the rewards won't be realized in the short term. We identified three dimensions of engagement—arousal, longevity, and frequency—along which players can engage with a game, and furthermore, predict what combinations of these three dimensions are best suited for each mission statement scenario.
Jung-Yong Lee1 and Chang-Hyun Jin2 *	Brazil	This study examines the relationships between several sub-factors of gamification (i.e. fun, rewards, competition, and storytelling) and brand app experiences. The study also examines the moderating effects of the so-called 4Rs of brand apps (reflex, reality, real place, and real communication) on	The study was conducted in groups of approximately 450 subjects.	The study finds that gamification is positively related to brand app experiences, with fun and storytelling serving as motivating factors and having stronger effects on brand app experiences than other factors. Brand app users are more likely to seek fun and storytelling when using brand apps than other potential gamification sub-factors. The results suggest that companies should develop technologies to interact with customers, attract customers, and provide them with memorable experiences and fun.

		brand app experiences		
Maria Palacin-Silva1*, Antti Knutas2 , Maria Angela Ferrario3 , Jari Porras1 , Jouni Ikonen1 , Chandara Chea1		This paper reports the findings of an experimental study specifically designed to further understand the effects of gamification on citizen engagement. Our study involved the development and implementation of two versions (gamified and non-gamified) of a mobile application designed to capture lake ice coverage data in the sub-arctic region.	user engagement and user experience in a participatory sensing application.	Emerging findings indicate a statistically significant effect of gamification on participants' engagement levels in PS. The motivation, approach and results of our study are outlined and implications of the findings for future PS design are reflected.
Kunthi Afrilinda Kusumawardani, Hanif Adinugroho Widyanto , Jessica Eva Gloria Tambunan	Indonesia	– The purpose of this study is to investigate the factors influencing intention to continue using and spreading the word of mouth for e-commerce applications in the gamification context.	219 users of ecommerce applications who played games on e-commerce platforms were gathered as the sample of the research and analysed using structural equation modelling.	This study provides practical recommendations for e-commerce applications in implementing gamification into their platforms. This study delivers a better understanding of the implementation of gamification in e-commerce by examining the in-game social interactions and the shopping behaviour in e-commerce to continue using the platform and spread the word of mouth about the gamification method.
Anil Yasin AR, Asad Abbas	Indonesia	This systematic review leverages		This research will correspond to the following research questions; (1) are there any commonly used techniques of gamification in

		"Preferred Reporting Items for Systematic Reviews and Meta-Analyses" (PRISMA) method as a way to evaluate and map the state of the art of gamification strategies that are used in engineering studies		engineering education? (2) What are the stateof-the-art practices in engineering education in terms of gamification? (3) Is gamification a useful teaching strategy in engineering education? Through answering these questions, the study offers insight to the lecturers on adapting current gamification techniques, efficient and effective way of utilizing this education strategy, and provide further research venues for future academic endowers.
Sara Baniamerian, Salah Esmaeeli Gojar		investigating the effect of gamification on learning, identifying important elements in gamification, and the design and composition approach of the elements		This article uses a systematic review that uses document and content analysis. Based on the findings of this study in research studies, the effect of this approach on learning has been reported positive and also the elements used in most studies are the same, the most important of which include feedback, score, time, ranking, competition, participation, progress bar, badge, Rewards, challenges, guides, warning signals, and missions. In the field of design and composition of these elements, a comprehensive view is emphasized, which means that the use of limited elements in the game of warfare will not have a positive effect, and it is better to use a set of these elements in the design of the game of warfare.
Dr. N. Prathyusha,	India	To investigate the use of Games in educational institutions toward language L2 learning to involves pedagogical approaches, methodologies, and strategies		The use of Games is an innovating way to learn language which has been gaining popularity. Gamification for language learning, is very motivating and inspiring for the learner as it has many challenges to be covered, goals to be achieved and finally win many rewards.
Fitri Handayani	Indonesia	This paper explores the various ways	10 English language teachers and 15	This study found that technology can enhance student engagement, motivation, and autonomy, allowing learners to take

		technology has been integrated into English language learning and evaluates its impact on students' learning outcomes, motivation, and engagement	students from different schools and universities.	control of their own language development.Gamified learning platforms, such as Duolingo and Memrise, have proven particularly effective in keeping students engaged by incorporating reward systems and interactive exercises that encourage daily practice.
Fitri Pangestu Noer Anggrainy1* , Sharizan2 , Ricky Sriyanda3 , Muhammad Farhan4	indonesia	This research investigates the potential of gamification in encouraging reading motivation among English as a Foreign Language (EFL) students.	English as a Foreign Language (EFL) students.	The study examines both reading skills and the various factors influencing reading motivation. Utilizing a conceptual paper methodology, this research systematically analyzes existing literature, theories, and concepts related to gamification and reading motivation in EFL learning, providing a comprehensive synthesis that forms the basis for understanding the potential impact of gamification on enhancing reading motivation among students
Masrurotul Ajiza1), Issy Yuliasri2), Hendi Pratama3), Sri Wahyuni4)	indonesia	this study examines the impact of gamified learning experiences on student motivation, engagement, and academic performance.	the researcher collected the students' basic demographic data such as age, gender, and the year of study. All of the participants are between 18 and 19 years old.	The findings of this study showed the effectiveness of gamification in promoting active learning, encouraging intrinsic motivation, and facilitating deeper engagement with course content.
Awal Kurnia Putra Nasution1 *, Muhammad Hasyimsyah Batubara2		The relationships between findings highlight how developments in one area of research often trigger changes in other areas, creating a dynamic and	". Using the Scopus database, a search query was developed to limit the study to articles published in the last 10 years, from 2014 to 2023.	this research confirms that TELL is a field that continues to develop, demonstrating the importance of technology integration in language learning, especially the use of mobile technology.

	interconnected learning ecosystem.		
Dr. Musaed A. Al-Mutairi	The article emphasizes the importance of early intervention and tailored support in fostering language development in young learners with ADHD	young learners with ADHD	Success stories and testimonials highlight the real-world impact of language learning apps in supporting young learners with ADHD
Bambang Tri Winasis1 , Chusna Apriyanti2	This research aims to explore the role of using gadgets on their ability to master English skills and identify the problems students face in mastering English.	The sample was 25 students majoring in English language education.	. The result of the research shows as much as 82% of respondents were classified as a very high category, and this proves that the use of gadgets has a positive impact on the ability to understand English, primarily through access to learning applications, social media and a variety of English content
Fanidawarti Hamzah1,* , Abdul Hakim Abdullah1 , Widad Ma2	This advancement aims to enhance student engagement, critical thinking skills, and access to resources.	advancing education through technology integration, innovative pedagogies, and emerging trends.	The review reveals the potential of technology integration, innovative pedagogies, and emerging trends in transforming education.
Sri Ningsih[1, *], Arum Putri Rahayu[2], Nyayu Yayu Suryani[3], Martriwati Martriwati[4], Masriatus Sholikhah[5], Eri Ester Khairas[6]	This study aims to shed light on how Indonesian students perceive the role of AI as a supplementary tool in enhancing their English language proficiency	Indonesian students	The findings suggest that Indonesian students generally hold positive perceptions towards AI tools in English learning. All three variables, P, T, and S, are positively correlated with each other, and these correlations are highly significant at the 0.01 level

Heri Retnawati a,e,1* , Elena Kardanova b,2 , Sumaryanto c,3, Lantip Diat Prasojo d,4 , Jailani a,5 , Elly Arliani a,6, Kana Hidayati a,7, Mathilda Susanti a,8 , Himmawati Puji Lestari a,9 , Ezi Apino e,10 , Ibnu Rafi a,11 , Munaya Nikma Rosyada a,12 , Rugaya Tuanaya e,13 , Septinda Rima Dewanti f,g,14 , Rimajon Sotlikova h,15, Gulzhaina Kuralbayevna Kassymova i,j	we analyzed the extent and manner in which technology is integrated into educational assessments and how education level, domain of learning, and region may affect the use of technology	empirical studies from two major databases (i.e., Scopus and ERIC) and a national journal whose focus and scope are on educational measurement and assessment	The findings of the present study are directed towards emphasizing the roles of technology in educational assessment practices and how these roles are adapted to varying educational contexts such as the level of education, the three domains of learning (i.e., cognitive, psychomotor, and affective), and the setting in which the assessment was conducted.
Mohammad Ahmadnejad Naseh Rahimi Rozhin Ghaslani	This study scrutinized the impact of Web 2.0 on the language achievement and self-regulated learning of Iranian EFL learners in online language courses. A	Iranian EFL learners	The quantitative outcomes revealed a notable impact on language achievement and self-regulated learning among EFL learners in the experimental group, emphasizing WhatsApp's supplementary role. Furthermore, qualitative findings shed light on the multifaceted aspects of employing WhatsApp in conjunction with LMS, unveiling both its merits and drawbacks.
Muhammad Iqbal Faza*), Ranu Iskandar, Rizqi Fitri Naryanto	The purpose of this research is to develop gamification-based learning media operated through the Android platform and test its effectiveness on student learning outcomes.	students of class XI TKR 1 and 2 at Mataram Semarang Vocational High School, with a total of 61 students.	This means that researchers conduct analysis, researchers make designs for learning media so that students are not bored while learning, researchers develop media that are more interesting than previous research, researchers implement by making learning media, and evaluate to develop further research.

1*Purwati Zisca Diana, 1Ika Putri Indriyani, 1Roni Sulistiyono, 2Putri Ayu Wulandari, 3Revola Aridya Prafitra	there is a need to develop website-based gamification learning media that makes learning more creative and innovative	high school debate text material.	there is a need to develop website-based gamification learning media that makes learning more creative and innovative
La Ode Rasmin1, Adi Isma2, Andi Mega Januarti Putri3, Ahmed Sardi4 La Ode Rasmin1, Adi Isma2, Andi Mega Januarti Putri3, Ahmed Sardi4	Future studies could examine how gamification affects self-regulated learning mechanisms, intrinsic motivation, and language ability over the long run.	Sixty-two third-semester English education majors	The study concludes that gamification can produce interesting, fun, and productive learning environments that improve students' motivation, engagement, teamwork, and general success in learning English. It is suggested by the implications that gamification techniques be used to encourage learners' motivation, engagement, and positive social dynamics
Nabilla Putri Ananda1, Fauziyah Tsania Rahmah2, Adi Rafli Ramdhani3	The aim of this research is to examine the strategy and impact of gamification in Indonesian education.	Students X Class Senior High School Majalengks	gamification can make learning more interactive, fun and effective. The positive impact can be seen in increasing motivation, interaction, cognitive abilities and student achievement. Therefore, it is important for educators to consider the use of gamification in learning.
Surya Haryandi1, Rossy Arlinda2, Misbah1*, Muhdi Harto3, Nurlaela Muhammad4, Sunardi5	these reflections provide an excellent reference point for further research on Gamification		students to learn using video game designs and gaming elements in the learning environment (
Fedelis Brian Putra Prakasa*1, Joseph Eric Samodra2, Thomas Adi Purnomo Sidhi3	this study aims to design a mobile application for Distance Learning by implementing gamification	32 siswa	student engagement during the learning process.

Noorhasanah Zainuddin*1, Rina Rembah2, Suharsono Bantun3, Jayanti Yusmah Sari4, Sahara	These results demonstrate the AR application's success in enhancing the appeal and quality of learning about the human movement system in coastal regions, creating an interactive learning experience.	20 students	Further research is recommended to continue developing and testing the application in various coastal schools to assess its impact and add features to enhance its effectiveness.
Tatchakrit Matyakhana, Treenuch Chaowanakritsanakulb,*, Joey Andrew Lucido Santosc	The quantitative results collected by the pre-test, post test, pre-survey, and post-survey showed that the experimental group significantly improved reading comprehension and gamification, compared to the control group that studied traditionally. F	university students	this study supports an alternative and innovative way to shift a reading class from a teacher-centered approach to a student-centered approach through gamification.
Georgios Lampropoulos1,2 · Kinshuk2	Gamification elements significantly affected students' achievements. In comparison to traditional learning environments,	students	Positive changes in stu dent attitude, behavior, and mentality as well as improved cognitive, physical, and social emotional development were observed. When using learning environments that integrate both virtual reality and gamification, students' learning outcomes, motivation, engagement, and self-efficacy were increased. Additionally, students' academic performance, active involvement, and satisfaction were improved. Students'

	gamified virtual reality learning environ ments were more motivating, engaging, and interactive and offered more opportunities for personalized and collaborative learning	curiosity, imagination, focus, and interest were enhanced and their skills and competences were developed.
	Investigate the impact of gamification on learning has been the subject of a systematic review of empirical evidence, which found that gamification has a positive impact on learning outcomes and student engagement.	Higher education is the level of education that uses the most gamification approaches in learning activities. Points and leaderboards are the most widely used elements to motivate and increase learner engagement. Gamification is proven to make the learning environment more interactive.

DISCUSSION

Gamified platforms integrate tools that offer immediate feedback on grammar, punctuation, and style, enabling students to make real-time revisions. Information systems have thus far mainly attempted to make people more efficient through better provision of information and informational feedback. As technological developments took place, systems, services and their facilitating infrastructure became more varied (Hassan et al., 2019). This feedback loop accelerates learning and improves writing quality. Features such as brainstorming aids and vocabulary expansion suggestions stimulate students' creative thinking. These tools encourage diverse expression styles and innovative approaches to writing tasks.

According to Kasahara et al. (2019), It is important to foster students' ability to write a program that meets speciications. In programming education, most assignments and examinations focus on writing programs that meet speciications (i.e., writing correct programs). Gamification allows for the analysis of individual writing patterns, enabling personalized feedback and resource recommendations. This customization heightens student engagement and fosters intrinsic motivation. Gamified activities encourage teamwork through shared projects and peer evaluations, fostering critical thinking, communication, and collaborative problem-solving skills. Interactive games and multimedia content make learning more inclusive and appealing to students with varying learning preferences and needs.

These results highlight the effectiveness of gamification as a tool that aligns with modern pedagogical principles, providing an engaging, interactive, and learner-centered approach to education.

CONCLUSION

This review concludes that gamification significantly enhances English writing skills by combining educational objectives with interactive elements. Its ability to deliver personalized, collaborative, and feedback-rich experiences makes it an invaluable asset in language education. As gamification technology continues to evolve, it has the potential to revolutionize teaching methodologies, making learning more engaging and effective.

Future studies are encouraged to examine the long-term impact of gamification and its scalability across diverse educational contexts, ensuring its benefits are accessible to a broader range of learners.

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