

Original Article

Gamified Vocabulary Learning as a Pathway to Realizing the Human Right to Education for Vocational Students

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Abstract

This review explores how gamified, checkpoint-based vocabulary learning supports the human right to education by promoting inclusive, equitable, and high-quality English instruction within Technical and Vocational Education and Training (TVET) contexts. Drawing from empirical and theoretical sources, the paper discusses gamification as an instructional innovation that aligns with human rights principles of participation, autonomy, and empowerment. Checkpoint-based designs, such as the dual structure of digital recall and peer interaction, offer meaningful opportunities for learners to experience linguistic growth through accessible and engaging modalities. By integrating game-based digital tools with collaborative activities, educators not only enhance vocabulary retention and speaking confidence but also advance social justice in education through learner inclusion. This review advocates embedding gamified checkpoints into vocational English curricula as a pedagogical expression of the right to education for all learners, particularly those marginalized by conventional academic structures.

Keywords: Digital tools; Gamification; Learning; Vocabulary; Vocational Students.

Introduction

The human right to education, enshrined in Article 26 of the Universal Declaration of Human Rights and reinforced in Sustainable Development Goal 4, emphasizes inclusive and equitable quality education for all learners.¹ In the twenty-first century, this right extends beyond mere access to schooling and encompasses the right to relevant, participatory, and empowering learning experiences that prepare individuals for work and lifelong learning. According to Yasin et al. (2024), Technical and Vocational Education and Training (TVET) institutions are widely viewed as a skills-oriented education pathway like those in many other countries such as Seameo Voctech in Brunei and Colombo Plan Staff College in Manila. These kinds of institutions have been recognised internationally for their contribution to capacity building, higher income, and poverty reduction among low-income populations. For vocational students, who often come from diverse socio-economic backgrounds² and face structural barriers, fulfilling this right requires innovative pedagogical designs that make language learning both meaningful and accessible. English proficiency is essential for employability, access to technical information, and further study pathways, yet many

¹ Munish Saini and others, 'Sustainable Development Goal for Quality Education (SDG 4): A Study on SDG 4 to Extract the Pattern of Association among the Indicators of SDG 4 Employing a Genetic Algorithm', *Education and Information Technologies*, 28.2 (2023), 2031–69 <<https://doi.org/10.1007/s10639-022-11265-4>>.

² Haslinda Abd Hamid and others, 'Shades of Gray TVET in Malaysia: Issues and Challenges', *International Journal of Academic Research in Business and Social Sciences*, 13.6 (2023) <<https://doi.org/10.6007/IJARBS/v13-i6/16747>>.



vocational learners exhibit lower levels of English proficiency and limited vocabulary repertoires, which constrain their opportunities in the global labour market.³

In many vocational institutions in Malaysia, vocabulary instruction still relies heavily on rote memorisation of word lists and decontextualised translation exercises, approaches that learners frequently perceive as monotonous and demotivating.⁴ Such methods tend to produce weak long-term retention and low speaking confidence, reinforcing anxiety and disengagement in English language classrooms. From a rights-based perspective, these conditions fall short of the SDG 4 vision of quality education, which stresses inclusion, participation, and relevance as core dimensions of the right to learn.⁵ Vocational English classrooms, therefore, need pedagogical approaches that actively engage students, respect diverse learning styles, and empower them to use vocabulary meaningfully rather than merely memorising word lists.⁶

Method

This study employs a systematic narrative review design to synthesize empirical and theoretical literature on gamified, checkpoint-based vocabulary learning within Technical and Vocational Education and Training (TVET). Literature was retrieved from major databases, including Scopus, Web of Science, ERIC, and Google Scholar, using keywords such as “gamification,” “checkpoint learning,” “vocabulary learning,” “TVET,” and “rights-based education,” covering publications from 2000–2025. Inclusion criteria focused on studies addressing gamified vocabulary instruction, English as a second or vocational language, and learner participation or motivation, while studies unrelated to vocabulary learning or lacking empirical or theoretical relevance were excluded. Data from selected sources were analysed through narrative synthesis to identify patterns in pedagogical design, game elements, vocabulary learning outcomes, and dimensions of inclusion and participation. International policy documents were also reviewed to map the alignment between checkpoint-based gamification and the human right to education. As this study does not involve primary data collection, ethical approval was not required; however, considerations of learner autonomy, digital access, and equitable participation informed the interpretation of findings.

Results and Discussions

Human-Rights Lens For Gamified Learning

Sustainable Development Goal 4 defines the global education agenda as a commitment to “ensure inclusive and equitable quality education and promote lifelong learning opportunities for all,” explicitly extending this vision to technical and vocational education.⁷ A human rights-based approach to Education for All stresses that the full realisation of the right to education is “not merely a question of access,” but also of educational quality and learning environments that are consistent with human rights values such as non-discrimination, relevance, participation and respect for learners’ dignity.⁸ Within this framework, empowerment is described as “not something done to people or given to people,” but “a participatory process that engages people in reflection, inquiry and action to understand the power they themselves have to influence and change their lives,” while

³ Mohamad Sobri Suhaili and Maslawati Mohama, ‘English Language Competency in Enhancing Technical and Vocational Education Training (TVET) Graduates’ Marketability in the Malaysian Workplace: A Literature Review’, *Creative Education*, 12.08 (2021), 1858–66 <<https://doi.org/10.4236/ce.2021.128141>>.

⁴ Juliana Othman, ‘Academic Vocabulary Learning in EMI Classrooms: Challenges and Strategies’, *Arab World English Journal*, 15.2 (2024), 3–18 <<https://doi.org/10.24093/awej/vol15no2.1>>.

⁵ Raja Bahar Khan Soomro, Abdul Basit Soomro and Zafarullah Sahito, ‘Human Rights Education and Sustainable Development Goal 4: Highlighting Intersections and Synergies’, *International Journal of Educational Development*, 118 (2025), 103399 <<https://doi.org/10.1016/j.ijedudev.2025.103399>>.

⁶ Kemal Arslan, ‘Teaching English Vocabulary: Innovative Methods’, *CONTEMPORARY RESEARCH IN LANGUAGE AND LINGUISTICS (ISSN: 2980-2253)*, 2.1 (2024) <<https://doi.org/10.62601/crll.v2i1.26>>.

⁷ Sunet Grobler and Ann-Kathrin Dittrich, ‘Envisioning Quality Education for Sustainability Transformation in Teacher Education: Perspectives from an International Dialogue on Sustainable Development Goal 4’, *International Journal of Comparative Education and Development*, 26.3 (2024), 270–85 <<https://doi.org/10.1108/IJCED-06-2023-0048>>.

⁸ Shira Bukchin-Peles and Avri Eitan, ‘Smallholder Perspectives on Agrivoltaics in Nepal: Framing Adoption under Constraint’, *Agricultural Systems*, 230 (2025), 104453 <<https://doi.org/10.1016/j.agry.2025.104453>>.



participation and inclusion are affirmed as an entitlement to “active, free and meaningful participation” in social, economic, cultural and political development.⁹ Viewing classroom practice through this lens means that gamified vocabulary learning can be considered rights-aligned only insofar as it broadens learners’ agency, invites their active and voluntary participation, and creates inclusive spaces in which diverse vocational students engage with English on equal terms.¹⁰

Within a human rights-based approach to education, classroom practice is expected to translate abstract rights into everyday learning processes that respect learners as agents and rights-holders.¹¹ Pedagogies that give students genuine choices in how they learn, invite them to express their views, and ensure that all learners can participate on equal terms are one way of operationalising the right to education at the micro-level of the classroom, in line with rights-based principles of participation, inclusion and non-discrimination.¹² In this review, gamified vocabulary learning is examined as one such pedagogy, with particular attention to whether its design features expand learner agency, foster active and “meaningful participation,” and support inclusive learning environments for diverse vocational students.¹³

Deterding et al. (2021) mention that gamification, commonly defined as the application of game elements such as points, levels, rewards, and feedback in non-game contexts, transforms conventional learning into more active, participatory, and intrinsically motivating experiences. Sofiadin and Azuddin (2021) agree that “The implementation of sustainable e-learning and gamification is the innovative solution that intends to promote education equality among learners, lifelong learning, and lower the drop-out rates”, which means that gamified education greatly aligns with principles of learner agency, participation, and inclusion that underpin quality education frameworks. Moreover, the balance between digital and physical checkpoints enhances engagement, contributing to a holistic model of empowerment consistent with the 'flow' theory of optimal learning. Empirical studies indicate that gamification can increase motivation and reduce learning anxiety, while promoting more equitable classroom participation among learners with varying abilities and levels of confidence.¹⁴ In the Global Initiative for Economic, Social, and Cultural Rights (2014) article, it emphasises the utmost importance of agency, active participation, and inclusion as core elements of a quality, rights-respecting approach. In language learning, these characteristics enable gamification to democratise classroom interaction, allowing students who might otherwise remain silent to contribute meaningfully to vocabulary practice and oral communication.¹⁵

Gamified Vocabulary Learning in Tvet

Gamification is commonly defined as the use of game design elements, such as points, levels, badges, leaderboards, time limits, and immediate feedback in non-game contexts to make activities

⁹ Ifzal Ahmad and M. Rezaul Islam, ‘Empowerment and Participation: Key Strategies for Inclusive Development’, in *Building Strong Communities: Ethical Approaches to Inclusive Development* (Emerald Publishing Limited, 2024), pp. 47–68 <<https://doi.org/10.1108/978-1-83549-174-420241003>>.

¹⁰ Eli Smeplass, ‘Nurturing Inclusivity and Professional Growth among Vocational Teachers through Communities of Practice’, *Pedagogy, Culture & Society*, 33.3 (2025), 785–804 <<https://doi.org/10.1080/14681366.2023.2268108>>.

¹¹ Ricardo Römhild, ‘Learning Languages of Hope and Advocacy - Human Rights Perspectives in Language Education for Sustainable Development’, *Human Rights Education Review*, 6.1 (2023), 9–29 <<https://doi.org/10.7577/hrer.5192>>.

¹² Aoife Duffy, ‘Applying Critical Pedagogies to Human Rights Education’, *The International Journal of Human Rights*, 29.2 (2025), 382–406 <<https://doi.org/10.1080/13642987.2024.2411623>>.

¹³ Yongchul Kwon and others, ‘Expanding Participation in Inclusive Physical Education: A Maker-Based Approach for Sport-Marginalized Students’, *Children*, 12.12 (2025), 1681 <<https://doi.org/10.3390/children12121681>>.

¹⁴ Budi Waluyo and Francis G. Balazon, ‘Exploring the Impact of Gamified Learning on Positive Psychology in CALL Environments: A Mixed-Methods Study with Thai University Students’, *Acta Psychologica*, 251 (2024), 104638 <<https://doi.org/10.1016/j.actpsy.2024.104638>>.

¹⁵ Sulaiman Alnujaidi, ‘The Impact of Gamification-Assisted Language Learning on EFL Students’ Acquisition of Phrasal Verbs’, *International Journal of Information and Education Technology*, 15.3 (2025), 488–95 <<https://doi.org/10.18178/ijiet.2025.15.3.2260>>.



more engaging and “gameful”.¹⁶ In language education, these elements are layered onto conventional tasks to transform vocabulary practice from repetitive drills into interactive challenges that reward progress, persistence, and collaboration.¹⁷ Researchers often distinguish structural gamification, which adds external structures such as scores, levels, or progress bars to existing content, from content gamification, which embeds game-like narratives, roles, and problem-solving directly into learning materials. In TVET and higher-education contexts, structural gamification is frequently implemented through platforms such as Quizizz, Kahoot!, and mobile vocabulary apps, which provide real-time feedback, adaptive challenges, and repeated exposure to target words in a competitive or collaborative format.¹⁸

Meta-analytic and experimental evidence suggest that digital game-based or gamified vocabulary instruction can yield measurable gains in word knowledge.¹⁹ A framework-based meta-analysis found that digital game-based vocabulary learning produced overall positive effects on vocabulary acquisition, with effect sizes moderated by specific game design features.²⁰ More recent meta-analytic work focusing on gamified second-language vocabulary learning likewise reports that gamified conditions tend to outperform non-gamified approaches on receptive and productive vocabulary outcomes. However, its effects vary across study designs and learner populations.²¹ Complementing these reviews, a multi-site study of digital game-based learning showed that EFL learners who engaged in structured game-mediated vocabulary tasks achieved significantly higher gains in both receptive and productive vocabulary than peers in traditional instruction, with benefits sustained over delayed post-tests.²²

Tool-specific and classroom-based studies help to explain how these gains are realised. Research on Quizizz, Kahoot! and similar platforms indicates that gamified quizzes provide the repeated exposures and retrieval practice needed for durable vocabulary *retention* while maintaining high levels of behavioural and emotional engagement. Studies from Southeast Asian and Middle Eastern higher-education contexts report that students in gamified vocabulary classes achieve equal or better test scores than those in list-based or worksheet-based classes, and that they describe gamified sessions as more enjoyable, interactive, and conducive to risk-taking in using new words.²³ These findings suggest that well-designed gamified vocabulary activities can both support learning outcomes and reshape students’ affective and participatory relationship with lexical learning.²⁴

Beyond test scores, a substantial body of work highlights the affective and participatory benefits of gamified language learning. Gamified vocabulary instruction has been shown to enhance

¹⁶ Richard N. Landers and Diana R. Sanchez, ‘Game-based, Gamified, and Gamefully Designed Assessments for Employee Selection: Definitions, Distinctions, Design, and Validation’, *International Journal of Selection and Assessment*, 30.1 (2022), 1–13 <<https://doi.org/10.1111/ijsa.12376>>.

¹⁷ Saharat Laksanasut, ‘Gamification in ESL/EFL Education: Transforming Language Learning and Teaching Through Play’, *TESOL and Technology Studies*, 6.1 (2025), 16–29 <<https://doi.org/10.48185/tts.v6i1.1562>>.

¹⁸ Zhihui Zhang, ‘Effect of the Gamified Second Language Vocabulary Learning: A Meta-Analysis Study’, *Lecture Notes on Language and Literature*, 6.1 (2023) <<https://doi.org/10.23977/langl.2023.060105>>.

¹⁹ Amin Rasti-Behbahani and Maryam Shahbazi, ‘Investigating the Effectiveness of a Digital Game-Based Task on the Acquisition of Word Knowledge’, *Computer Assisted Language Learning*, 35.8 (2022), 1920–45 <<https://doi.org/10.1080/09588221.2020.1846567>>.

²⁰ Nathalie Barz and others, ‘The Effect of Digital Game-Based Learning Interventions on Cognitive, Metacognitive, and Affective-Motivational Learning Outcomes in School: A Meta-Analysis’, *Review of Educational Research*, 94.2 (2024), 193–227 <<https://doi.org/10.3102/00346543231167795>>.

²¹ Zhihui Zhang.

²² Ke Li and others, ‘Mapping the Research Trends of Digital Game-Based Language Learning (DGBLL): A Scientometrics Review’, *Computer Assisted Language Learning*, 38.7 (2025), 1393–1422 <<https://doi.org/10.1080/09588221.2023.2299436>>.

²³ Waluyo Waluyo, Hilaire Tegnan and Noni Oktiana Setiowati, ‘Aligning State Finance Regulations with SOE Bankruptcy Policy: Evidence from the United States’, *Journal of Human Rights, Culture and Legal System*, 5.1 (2025), 246–78 <<https://doi.org/10.53955/jhcls.v5i1.470>>.

²⁴ Karim Sadeghi and others, ‘The Effects of Implementing Gamified Instruction on Vocabulary Gain and Motivation among Language Learners’, *Heliyon*, 8.11 (2022), e11811 <<https://doi.org/10.1016/j.heliyon.2022.e11811>>.



motivation and enjoyment, sustain attention, and reduce boredom compared with traditional vocabulary exercises, even when objective learning gains are modest.²⁵ In computer-assisted language learning environments, gamified activities built around tools like Quizizz have been found to support positive psychology constructs such as enjoyment and engagement, although their effects may plateau without varied design over time.²⁶ Classroom-based analyses of gamified language tasks further indicate that students display more playful behaviour, exercise greater autonomy over tasks, and voluntarily complete additional practice, which suggests that gamification can foster a stronger sense of learner agency.²⁷

At the same time, several studies note that gamified environments can draw in learners who are typically quiet or reluctant in whole-class discussions. Focus-group and observation data show that “silent” students become more willing to respond, participate in team-based challenges, and experiment with new vocabulary when the task is framed as a low-stakes game rather than an evaluative test.²⁸ This pattern aligns with findings that gamified tools increase participation and collaboration in English classes by providing structured turn-taking, anonymity options, and immediate feedback that is shared by the group rather than directed at individuals.²⁹ Taken together, these affective and participatory gains map closely onto the human-rights principles of participation and inclusion, suggesting that gamified vocabulary learning has the potential not only to improve lexical outcomes but also to support more equitable, rights-consistent participation in TVET English classrooms.³⁰

Checkpoint-Based Gamified Model As Rights-Based Pedagogy

Checkpoint-based learning structures instruction into progressive stages that scaffold learners’ skills and provide continuous feedback at each step, so that students move through clearly defined goals rather than confronting a single high-stakes task. In the model proposed here, checkpoints are organised into two complementary strands: a digital recall strand: “Vocabulary Quest”, where learners repeatedly retrieve and apply target words through gamified online quizzes and challenges, and a peer-interaction strand: “Human Go”, where learners engage in face-to-face, game-like speaking tasks that require them to use those words in spontaneous communication. Each checkpoint is designed with clear objectives, immediate feedback, and visible indicators of progress, echoing flow-theory principles that emphasise clear goals and unambiguous feedback as preconditions for optimal engagement.³¹

Because learners move through checkpoints at a manageable pace and can re-attempt tasks until they achieve mastery, the model gives students greater control over timing, repetition, and pathways through the vocabulary content.³² Gamified checkpoints transform vocabulary learning from an

²⁵ Benjamin Panmei and Budi Waluyo, ‘The Pedagogical Use of Gamification in English Vocabulary Training and Learning in Higher Education’, *Education Sciences*, 13.1 (2022), 24 <<https://doi.org/10.3390/educsci13010024>>.

²⁶ Waluyo and Balazon.

²⁷ Jiao Song and others, ‘Unboxing Autonomous Motivation, Controlled Motivation, and Oral Skills among EFL Learners: Insights into Gamification through the Lens of Broaden-and-Build Theory’, *Learning and Motivation*, 90 (2025), 102110 <<https://doi.org/10.1016/j.lmot.2025.102110>>.

²⁸ Alnujaidi.

²⁹ Junyue Yue and Myeong-Sook Yoon, ‘The Relationship between Widowhood and Depressive Symptoms among Chinese Older Adults: Does Living Alone Make a Difference?’, *Acta Psychologica*, 253 (2025), 104749 <<https://doi.org/10.1016/j.actpsy.2025.104749>>.

³⁰ Febri Prasetya and others, ‘Gamification in Vocational Education: A Systematic Literature Review of Strategies, Theories, and Impacts’, *SN Computer Science*, 6.8 (2025), 936 <<https://doi.org/10.1007/s42979-025-04488-y>>.

³¹ Gang Yang and others, ‘Designing a Second-Order Progressive Problem-Based Scaffold Strategy to Promote Students’ Writing Performance in an SVVR Environment’, *Education and Information Technologies*, 2024 <<https://doi.org/10.1007/s10639-023-12418-9>>.

³² Jingjing Gui and Sayed M. Ismail, ‘The Effect of Planning Time on Vocabulary Acquisition in a Task-Based Environment: The Mediating Roles of Working Memory and Field (in)Dependence’, *BMC Psychology*, 12.1 (2024), 145 <<https://doi.org/10.1186/s40359-024-01638-4>>.



abstract requirement into a sequence of achievable challenges, allowing learners to monitor their own progress and experience frequent moments of success rather than occasional high-stakes judgment. This design resonates with social-cognitive and motivational views of learners as agents who exercise self-regulation and choice, and with flow theory's emphasis on a balance between challenge and skill coupled with a sense of potential control. In human-rights terms, such agency-supportive structures operationalise self-determination and empowerment in the classroom by enabling learners to participate "actively, freely and meaningfully" in shaping their own learning trajectories rather than remaining passive recipients of predetermined instruction.³³

The dual-checkpoint design also creates low-threat spaces for spontaneous speech and communicative play, particularly within the "Human go" activities, where vocabulary practice is embedded in collaborative, game-like interactions rather than formal presentations or tests. By combining digital recall tasks, oral games, and multimodal prompts, the checkpoints cater to visual, kinaesthetic, auditory, and reading/writing preferences, reducing the risk that any one mode of delivery systematically disadvantages particular learners. Classroom evidence from gamified language learning suggests that such environments can draw in typically silent or anxious students, who become more willing to respond, participate in team-based challenges, and experiment with new language when tasks are framed as games with shared goals and immediate feedback.³⁴ Framed through a rights-based approach, these features align with the principles of participation and inclusion, "every learner matters and matters equally" and with non-discrimination obligations that require teaching practices to remove barriers and enable diverse learners to participate and succeed on equal terms.³⁵

In vocational contexts, vocabulary mastery underpins workplace communication, safety comprehension, and engagement with technical documentation; insufficient lexical knowledge can therefore limit employability and constrain the practical realisation of the right to education in terms of outcomes.³⁶ By structuring vocabulary learning into accessible checkpoints that link technical lexis to realistic communicative tasks, the model seeks to connect classroom activities directly to present and future occupational demands, thereby enhancing both relevance and perceived usefulness for TVET learners. This approach echoes UNESCO's articulation of quality education as one that is inclusive, equitable, and responsive to learners' diverse needs while ensuring that all students progress towards common competence goals and lifelong. In this sense, checkpoint-based gamified vocabulary instruction offers a concrete way of operationalising SDG 4 in vocational English classrooms: it promotes quality through structured, feedback-rich learning, equity by supporting participation and success for diverse learners, and lifelong learning by fostering motivation, confidence, and self-regulated engagement with language learning beyond a single course.³⁷

Conclusion

Based on the analysis presented, it can be concluded *first* that gamified, checkpoint-based vocabulary learning provides an effective pedagogical approach for strengthening learners' engagement and linguistic development in Technical and Vocational Education and Training (TVET). By integrating digital recall activities with structured interaction, this model supports active participation and enhances students' ability to retain and apply new vocabulary. *Second*, the findings indicate that this approach aligns with human rights principles in education by promoting inclusivity, accessibility, and learner empowerment. Gamified checkpoints create learning environments where students, especially those who struggle with traditional methods can experience success, build

³³ Gabriela Martinez Sainz and others, 'A Rights-Based Exploration of Children's Pedagogic Voice in the Classroom', *Education 3-13*, 52.6 (2024), 874–90 <<https://doi.org/10.1080/03004279.2024.2331953>>.

³⁴ Alnujaidi.

³⁵ Waluyo and Balazon.

³⁶ Suhaili and Mohama.

³⁷ Rachel Hall Buck, Jenifah Abu-Hassan and Saif AlDarwish, 'Implementing SDGs in the English Language Classroom', *Open Scholarship of Teaching and Learning*, 3.1 (2024) <<https://doi.org/10.56230/osotl.78>>.



confidence, and develop autonomy in their English learning process. *Third*, the review underscores the importance of embedding gamified checkpoint strategies into vocational English curricula as part of a broader commitment to educational equity. When implemented consistently, this model not only improves language competence but also advances the right to quality education by ensuring that all learners, including marginalized groups, benefit from engaging and supportive instructional practices.

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