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(IJEPC)**<https://gaexcellence.com/ijepe>**THE EFFECT OF MOBILE LEGENDS: BANG BANG (MLBB)
ON A2 PRE-DIPLOMA STUDENTS' WRITING SKILLS:
A QUASI-EXPERIMENTAL STUDY**

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Abstract:

The writing skills of pre-diploma students in Malaysian universities are generally not up to the A2 level for academic advancement. Traditional remedial teaching is not always effective when the learning object is abstract and not related to student's interests. This study aimed to investigate whether a short-term writing intervention based on content from Mobile Legends: Bang Bang (MLBB) could enhance the writing performance of A2 learners with the background of playing this game. The study employed a quasi-experimental design with one group pretest-posttest design and followed 29 pre-diploma students who studied English at Universiti Teknologi MARA (UiTM), Johor Branch. Participants took a pretest, received five writing sessions integrated into a MLBB, and then took a posttest, which was an identical test to the A2 Key (KET) Writing paper. Writing scores rose from a mean of 21.00

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(SD = 4.93) at pretest to 23.69 (SD = 4.71) at posttest, yielding an average gain of 2.69 points. This improvement was statistically significant, with a large effect size (Cohen's $d = 0.82$) and a paired-samples t-test confirmed this ($t(28) = -4.39, p < .001$). The intervention was based on the Sociocultural Theory and incorporated culturally relevant content from the MLBB to ease the cognitive load of idea generation. Observations in the classroom showed that the students were not keen on writing but by the second session they were very involved. The scaffolding was two-stage, starting with a game-based prompt and ending with a parallel real-world task, which made the transfer of writing skills explicit. The results indicate that familiar digital game content, even if students do not play the game in class, can be used as a good scaffolding in A2 writing learning. The study is a part of the body of research on game-based language learning, which has been expanding, and provides evidence of the potential of popular digital content to be integrated into the writing curriculum of low-proficiency learners.

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Keyword:

Digital Game-Based Language Learning (DGBLL), Instructional Scaffolding, L2 Writing, Low-Proficiency Learners, Quasi-Experimental Design, Sociocultural Theory



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Introduction

The mastery of writing is a chronic problem of pre-diploma students in Malaysia's higher education. Students joining pre-diploma programmes at Universiti Teknologi MARA (UiTM) must have a minimum grade of C in English Language and a significant percentage of students join with writing skills below the A2 level of the Common European Framework of Reference for Languages (CEFR). They often use limited vocabulary in writing, and sentences can be grammatically correct, but the length of the writing is short and connected. These are not just an academic annoyance but can slow down progress and lose confidence at a developmental stage of tertiary education. In remedial writing instruction in such settings, teachers tend to use textbook exercises and prompts, which do not necessarily make sense to students whose lives are filled with digital media and interactive entertainment outside of school.

Game – based learning (GBL) is a rapidly expanding area of research in education that has been investigated as a way to promote engagement and as a tool to help learners acquire a language. Research has been linked to improvements in vocabulary, listening and willingness to communicate following GBL interventions. For example, they were able to play a word puzzle game on mobile devices to enhance vocabulary development and its communicative use with a higher learner's willingness to communicate. But little research exists about whether participative exposure through games can be translated to tangible gain in structured L2 writing

at the CEFR A2 level. Writing requires sustained attention to form, coherence, audience, which is not a natural product of the rapid gameplay. Most of the literature on GBL focuses on receptive skills or oral interaction, and in the case of GBL in language curricula, the integration of commercial games in language teaching often lacks a clear design of how the games are connected to the curricular goals, and so the literature is suggestive rather than conclusive regarding the efficacy of GBL for developing structured writing competence.

Mobile Legends: Bang Bang (MLBB), a mobile Multiplayer Online Battle Arena (MOBA) game that gained significantly popularity amongst the youth in the Southeast Asian region, provides an interesting subject for pedagogical reuse. It's a platform that is very popular among young adults in Malaysia, thus making it very familiar to a lot of pre-diploma students out there. The interface of the game constantly gives players incidental exposure to functional language patterns in the form of hero biographies, ability descriptions, in-game chat and item tooltips. The researchers have started to look into these linguistic affordances: the vocabulary learnt during MLBB gameplay and the narrative thinking of the learners, while the collaborative demands of the game stimulated authentic communication. However, one question that has not yet been answered is how a play experience can be systematically directed towards a conscious and structured writing task that A2 level tests demand.

This study is aimed at filling that gap by examining the impact of a writing intervention that is integrated within the learning management system (MLBB) on the A2 writing achievement of pre-diploma students at Segamat Campus, UiTM Johor Branch. Although there is a growing body of research on digital games for language learning, there is limited empirical research that systematically quantifies writing outcomes pre- and post a digital game-based intervention in language education via a standardised assessment instrument. This present study addresses this need by using a quasi-experimental pre-test and post-test approach in five structured writing sessions based on Sociocultural Theory (SCT) and Self-Determination Theory (SDT). It is hoped that the findings will provide preliminary empirical evidence of the feasibility of MLBB as pedagogical material for writing teaching and learning and have implications for TESL practitioners, writing curriculum developers and Malaysian foundational education policy makers. The following research objective guides this study: to evaluate the effect of an MLBB-integrated writing intervention on the A2 writing performance of pre-diploma students, which addresses the following research question: To what extent does an MLBB-integrated writing intervention affect the A2 writing performance of pre-diploma students?

Literature Review

Writing Skills in EFL/ESL Contexts

In the process of language learning, writing is one of the more difficult skills that must be mastered and must be focused at once because it must be mastered both grammatical, vocabulary, coherence, and organisation (Graham & Perin, 2007, as cited in Alghasab, 2025). This need is magnified in the English as a foreign language (EFL) classroom. Students need to plan, write and review ideas to be deliberate and practice them (Alghasab, 2025). Limited opportunities outside of school to interact with English makes the learning process even harder for learners in both ESL and EFL contexts. It is a persistent issue of teachers and students to develop proficiency in writing under this condition. There has been longstanding empirical research that focuses on the challenges encountered by EFL/ESL writers. Harshalatha and Sreenivasulu (2024) found that the lack of enthusiasm and lack of practice are the major

challenges along with lack of vocabulary and inconsistent use of grammar as the most immediate challenges. This finding is supported by Vula et al. (2024), who highlighted difficulty with using verbs in the correct tense, subject-verb agreement, usage of articles, prepositions, pronouns, and connective devices. These are not one-off incidents, but regular occurrences in the classroom. The same problems are faced by Malaysian pre-university students, and in many cases, these problems are concentrated. Ahmad et al. (2016) noted that the restriction of lexical resources and underdeveloped learning strategies among university students, especially incoming ones, hindered the production of coherent writing. Furthermore, Ab Manan et al. (2013) found that language learning anxiety is one of the factors that leads to the erosion of the students' writing skills. If neglected, these vulnerabilities have implications beyond the classroom since in Malaysia, proficiency in English influences employment opportunities and writing skill is a gatekeeper in academic and professional fields. But grammar isn't everything. Higher order writing processes also pose problems for novice second language writers, as these writers may lack the ability to plan effectively, to revise systematically, and to produce ideas in an organized fashion, using instead the processes they have learned in their first language, which do not always correspond to the conventions of writing in the second language (Kılınç & Yüksel, 2024). This suggests a need for teaching that involves students in the process of writing and develops competence from scratch.

A2 Level Learners and Common Writing Challenges

The Common European Framework of Reference for Languages (CEFR) is a six-level scale (A1 to C2) that describes language proficiency. At A2 (Basic or Elementary), students should be able to write brief, simple texts on known topics and link ideas using basic conjunctions like "and", "but" and "because. Kılınç and Yüksel (2024) explored the impact of online collaborative writing in an EFL context and reported that A2 level students gained in lexical complexity and fluency but did not make improvement in syntactic complexity, indicating the non-attainable levels of syntactic complexity for A2 learners. A2 is a realistic starting point for students who enter pre-diploma English programmes in Malaysia with a minimum C grade in their SPM English. Such students are able to manage brief and simple texts on topics with which they are already familiar, but longer paragraphs, fuller arguments, and shifts of register are more challenging. The Ministry of Education Malaysia (2015) is moving towards higher proficiency in English from A2 level to B2 which is the target for post-secondary education, and the move towards B2 is the central issue in instructional planning. Moreover, as Nikbakht et al. (2024) point out, EFL learners at basic proficiency levels tend to be hesitant in classroom settings and their limited grammatical range limits their scope of what they can try. The pedagogical question then is how to organize instruction in writing in such a way that it is challenging without being overpowering. Guo et al. (2024) suggested that one of these is game based learning.

Game-Based Learning (GBL)

Game-based learning (GBL) is a learning methodology that incorporates game elements and game mechanics into educational activities to achieve learning outcomes and engagement and motivation. As a student-centred approach it motivates students to learn while providing a motivating environment for students to feel that they have more control over the learning process; this is relevant especially in contexts where students do not have a chance to practise English every day (Rajendran et al., 2025). The theory of GBL is coherent with the existing learning theories. According to Vygotsky's (1978) Sociocultural Theory (SCT), learning is

primarily a social experience and is facilitated and co-constructed using the available cultural tools and through social interaction. Games, by nature, offer rich environments where such a social mediation happens players communicate, strategize and develop a shared understanding through interaction. In the same way, Self-Determination Theory (SDT) developed by Deci and Ryan (2017) focuses motivation on the three fundamental psychological needs: autonomy, competence and relatedness. Concerning these three, Yang et al. (2024) noted that research on GBL has mostly taken a cognitive and social approach, such as flow theory, situated learning, and sociocultural approaches, with reported positive outcomes in developing the four language skills, communicative competence, and attitudes. The results in this paper validate the theoretical soundness of the application of GBL in Language Education, especially in writing productive skill. Previous research has also revealed that GBL can enhance language proficiency and writing achievement because it provides contextualized practice and empowers student independence (Darma et al., 2025), which helps to resolve some issues of de-contextualized writing tasks in the classroom.

Digital Games in Language Learning

The research into digital games for language learning has been increasing over the last decade. Ray and Ilangovan (2024) suggested that the potential of digital game-based learning lies in the ability to enhance cognitive strategies that link new learning to previous knowledge, which can lead to the enhancement of learner autonomy. Guo et al. (2024) reviewed 22 studies on writing instruction and reported positive findings: the use of digital games leads to measurable improvement in writing, specifically in control of grammar and structure, and can have a positive impact on attitudes towards writing activities. Nevertheless, some issues of uneven uptake in terms of micro-skills, such as spelling or vocabulary were revealed in the study. This finding is in accordance with a systematic review of 34 articles by Yi and Yunus (2023) that demonstrated positive gains in writing among players of digital games, particularly in the control of grammar and structure, while also fostering positive attitudes toward writing tasks. Moreover, the motivational aspect of digital game-based learning is well established. According to Rajendran et al. (2025) these game-based interventions boost academic achievement particularly in vocabulary and grammar. Furthermore, students attribute the use of personalized game-based learning to increased motivation and engagement.

Rahmatika (2025) proposed that the interactive nature of the games also provided opportunities for language to be used collaboratively, which allowed for the use of the language within the Zone of Proximal Development (ZPD) (Vygotsky, 1978) where the peer interaction allows the learner to perform more than they could individually. There are also cautionary notes in the literature as teacher scepticism, especially among older teachers, may be a barrier to implementation in the classroom, an issue that requires targeted professional development (Gutierrez et al., 2023). Bal (2019) noted that questions regarding long term impact and systematic incorporation into the curriculum are still unanswered. To address these concerns, the current study explored a structured intervention during a specific time frame, adding to a more comprehensive understanding of the potential role of digital games in formal writing instruction.

Mobile Legends: Bang Bang

Mobile Legends: Bang Bang (MLBB) is a Multiplayer Online Battle Arena (MOBA) game developed by Moonton, which to date has exceeded 1.2 billion downloads globally (Hasanudin

et al., 2024). The text it generates internally, such as character backstories, narrative arcs and real-time team communication, creates a constant flow of English text that players will encounter incidentally during a match. Researchers in Southeast Asian educational contexts have started questioning why such a language context cannot be used for more intentional language learning. Rahayu (2020) conducted a study on 35 eleventh graders in Indonesia, and the study showed that there was an improvement in writing achievement after applying MLBB-based learning, which was 70% of the students who passed the minimum standards. This finding is consistent with Kobis and Tomatola (2020), whose study found that half of their students improved their writing, alongside gains in vocabulary and listening skills, suggesting that MLBB is versatile in that it impacts more than one language domain at once. In addition, Qothrunnada et al. (2024) conducted a study on characters and settings within MLBB and found that the game provided rich illustrations of the story structure. Students' responses further showed that the game facilitated narrative writing, especially in terms of plot sequencing and character portrayal. This is similar to a general trend in embedded storytelling in which MLBB can provide prompts that are authentic and easily accessible and therefore suitable for the A2 level tasks of describing a character or building up a short story sequence. Ananda and Hasibuan (2023) recorded significant lexical range improvement among eight-graders upon receiving MLBB-based intervention. Furthermore, Aflah (2023) reported that students attribute their improvement of vocabulary range, pronunciation and fluency to gameplay interactions. Moreover, Dela Cruz et al. (2024) demonstrated a broad scope of benefits, proving significant improvements in critical listening and communicative readiness, which suggest that MLBB is a communicative environment, not just a single-skill tool. However, as Qothrunnada et al. (2024) and Kobis and Tomatola (2020) imply the use of MLBB in formal writing instruction at basic levels of the language, such as A2, is underresearched, and this study aims to fill this gap.

Conceptual Framework

Theoretically, this study is based on Sociocultural Theory (SCT) as a theory that is used to explain the potential for the Mobile Legends: Bang Bang (MLBB) in improving the A2 writing performance of students taking pre-diploma. SCT believes that cognitive development occurs when children interact socially and participate in activities that are significant to their culture. Artifacts that have cultural and linguistic significance in a community mediate learning. One of the key ideas in this approach is the ZPD, which is the gap between what a learner can do on their own and what they can do with help and guidance from others or through working on activities where they can learn from one another. In the current study, MLBB is used as a content source of adapted instructional content, and not as a delivery tool or a learning environment. The intervention utilizes game content, such as images of the game's heroes, screenshots of in-game chats, matches, and characters' legend, and turns them into classroom resources. Students are familiar with these materials, and they have a certain value of recognition. In a writing task that starts with describing the appearance of a hero, or writing a short in-game message, the learner is not required to come up with ideas from an unfamiliar prompt, so their attentional resources are freed up for the linguistic demands of the task: sentence formation, cohesive ordering of information and awareness of register. The intervention is a carefully designed 2-stage process (five sessions). During the first stage, students work on writing short in-game chat messages, thank-you notes to teammates, descriptions of the hero, match reports with the use of linkers, and narrative descriptions of recent gameplay, all of which are directly connected to the content of MLBB. In the second phase students move on to parallel exercises based on authentic or test texts: a thank you letter to a team member is turned into a thank you letter to a teacher, and a hero description is changed

into a description of a family member. The MLBB content acts as a scaffolding system which is phased out as the students' progress towards more independent production in more formal registers. Peer interaction is integrated throughout the intervention, and students send messages, read descriptions to each other, and give reactions to drafts with the help of structured checklists. These exchanges serve in SCT terms to help the learners function in their ZPD in that they offer models for language use and an opportunity to compare their own language formulations with those of their classmates.

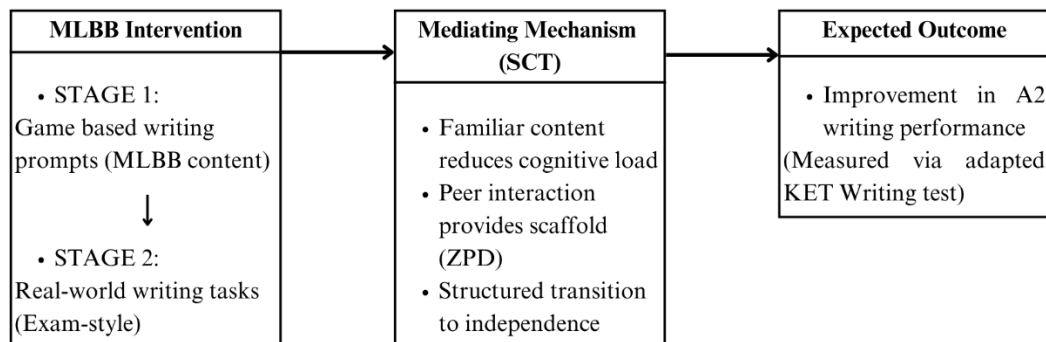


Figure 1: Conceptual Framework for MLBB Writing Intervention

Methodology

Research Design

The design of this study was a single-group pretest-posttest quasi-experimental design to assess the impact of the five-session MLBB-integrated writing module on pre-diploma students' level of achievement in A2 writing. However, the design is quasi-experimental, as participants were not randomly allocated to conditions and the study has focussed on a change occurring with the one group over time. The design is in line with the main objective of the study which is to measure the observable improvement in writing proficiency after exposure to the instruction of writing through MLBB-based. Every participant had a pretest taken 1 week prior to the start of the intervention. A pretest based on the A2 Key (KET) writing test was used to provide a baseline assessment of the students' writing ability. Next, the participants wrote for one hour a week for five weeks with the MLBB content used to scaffold writing tasks until participants moved to writing parallel tasks in the real world. In the week after the last session, a posttest was administered that was the same in form and level of difficulty as the pretest. Change in writing performance was measured at pre and post-test with the mean post-test score compared to the mean pre-test score to see if this was significant and effect size was calculated to see if there was any significant change of the magnitude. It needs to be emphasized that this paper outlines the findings from the experimental component of a larger mixed method research project. While the larger study had a comparison group and qualitative interviews, the present paper investigates the writing outcomes of the MLBB intervention group to gain a more in-depth understanding of the instructional design and the immediate impact of the MLBB on A2 writing outcomes. Results pertaining to comparison group and qualitative data will be reported separately.

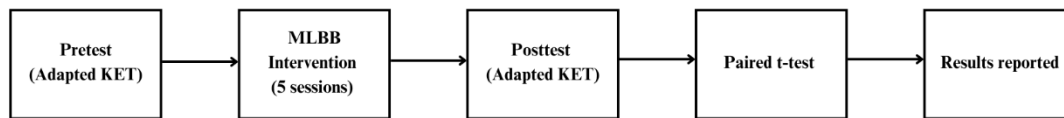


Figure 2: Research Design

Participants

The participants of this study were 29 students (pre-diploma) who were in the LCC001 English course, Universiti Teknologi MARA (UiTM), Johor Branch, Segamat Campus during the October 2025- February 2026 semester. LCC001 is an all-pre-diploma, compulsory course that offers basic instruction in academic writing and reading as well as in communication in general, but with a special focus on grammatical accuracy, vocabulary development and the coherence of written texts. No student attrition between the pretest and posttest phase as all 29 students completed both pre and post assessment and attended the entire five session intervention module. The researcher was allocated to the participating class by the coordinator of the pre-diploma programme, and the study was thus conducted by using a convenient sampling method. Random sampling of the whole pre-diploma population was not possible due to institutional scheduling. Pretest outcomes validated that students are writing at either a low A2 or high A1 CEFR proficiency level, as this is the level of the study's focus on foundational writers. Some students said that they played MLBB regularly, while some said that they had limited/experienced less or no playing. The materials used for intervention took this variation into account: everything needed to gain access to the content of the games was introduced by screenshots, images of a hero, pieces of in-game dialogue that were pre-selected, and brief narrative descriptions, and prior gaming experience was not required to understand the prompts or complete the writing tasks.

Instruments

The instruments used in this study consisted of two parts: (1) writing assessment (pretest and posttest) and (2) MLBB integrated writing intervention (five sessions).

Pretest and Posttest

The pretest and posttest were an adaptation of the A2 Key (KET) Reading and Writing paper, which was assessed with the CEFR Rubric for writing. The A2 Key Writing section developed by Cambridge Assessment English is a standardised scale of writing skills for A2-level writers. The selection of this tool was based on the requirement of the students at minimum entry level (SPM English grade C) at UiTM which is approximately at A2 level on CEFR scale. The A2 Key Writing section assesses writing in relation to the intervention tasks, such as making short, simple notes and messages, writing short, personal letters, providing short paragraphs on familiar topics, using basic connectors (and, but, because) and describing everyday situations with basic vocabulary and sentence structures. Pretest was given a week prior to the start of the intervention to determine the baseline level of writing skills, which revealed that the participants were at either A2 low or A1 high level. The posttest was conducted seven days after the last intervention session and was the same as the pretest in terms of format and difficulty.

Intervention Materials

All the intervention materials were created by the researcher and based on the materials of MLBB which consisted of the screenshots of the conversation between players when playing the game, hero images and brief descriptions of the narrative when the game occurs. These materials were created with the intent that they be accessible to every student, irrespective of any previous experience with playing games, and that no games would be played during class time. All the materials of the intervention were vetted by an expert in computer-assisted language learning (CALL) who is a senior lecturer at a public research university in Malaysia to ensure the quality and appropriateness of the materials. The materials were assessed by the expert based on the following criteria: The content of the materials is appropriate and available for the pre-diploma learners; The task instructions are clear and accessible; The two-stage scaffolding of the materials is coherent; The materials are suitable to the A2 CEFR writing descriptors. Given the feedback of the reviewer, the wording of some prompts was minimally changed before the intervention began.

Intervention Procedure

This intervention consisted of five weeks of instruction, with each session ($n = 1$) taking place 1 hour per week during the regular LCC001 class time. All sessions were led by the researcher and all 29 students participated in the entire series. The intervention was based on Sociocultural Theory and provided MLBB content as familiar materials to decrease the cognitive load for the idea generation. The session consisted of two phases: First, students performed a writing task related to the MLBB's content; then, they transferred to a parallel real-world task. During class, there was no game-play, but students interacted with screen shots of in-game chats, hero images and short written narrative prompts. A summary of the writing tasks in the five sessions is provided in Table 1.

Table 1: Summary of MLBB Writing Intervention Sessions

Session	MLBB-Based Task	Real-World Task
1	Write short in-game chat messages	Write a short note to a friend
2	Write a thank-you letter to a teammate	Write a thank-you letter to a teacher
3	Describe an MLBB hero	Describe a family member
4	Use connectors in a match report	Describe a memorable outing
5	Write about an in-game experience	Describe a school event

The following components were consistently used in each session: warm-up discussion about the content of the MLBB (5 minutes); teacher modelling of the target structure (10 minutes); guided practice with the MLBB-based prompt (15 minutes); explanation and demonstration of how to transition from the structure to the real-world parallel task (10 minutes); independent writing of the real-world parallel task (10 minutes); and structured checklist peer review for the real-world parallel task (10 minutes). All resources were standardised and one instructor was used to deliver all sessions to reduce variability in the implementation of the sessions.

Data Collection

Data collection took place in three phases in the Semester of October 2025 to February 2026. Pretest (Week 1): All participants (29) took the adapted A2 Key (KET) Writing under standardised conditions. During the intervention phase (Weeks 2–6), the participants were engaged in five one-hour writing sessions as outlined above. There was 100% attendance for all sessions. During the post test period (Week 7), the participants were again given the same writing tests in the same condition. There were no missing data in the pretest and posttest papers which were anonymous and scored based on the CEFR A2 writing rubric and subsequently input into SPSS (Version 29). Table 2 is a summary of the data collection period.

Table 2: Summary of MLBB Writing Intervention Sessions

Week	Activity	Duration	Participants
1	Pretest administration	60 minutes	29
2-6	Intervention (5 sessions)	60 minutes per session	29
7	Posttest administration	60 minutes	29

Data Analysis

Data analysis was carried out in IBM SPSS Statistics (Version 29) following three stages namely, preliminary screening, inferential testing and effect size calculation. There were no missing data points as all participants completed both the pretest and posttest. To summarise the central tendency and the variability of pretest and post test scores, descriptive statistics (means, standard deviations, ranges etc.) were computed. The difference scores (posttest-pretest) were analyzed to look for approximate normality in the distribution of the score for skewness and kurtosis. In a paired-samples design with $n = 29$, moderate deviations from normality tend to be not greatly affected on the t-test. A Paired-samples t-test was used to answer the research question. This test was chosen because it is a single group pretest/posttest design in which each participant's pretest score is compared to his or her own posttest score. The null hypothesis was that there would be no significant difference between the writing scores obtained on the pretest and writing scores obtained on posttest, and the alternative hypothesis was that the writing scores obtained on the pretest would be lower than the writing scores obtained on the posttest. The alpha value was .05 for all tests. Cohen's d-for-paired samples was used to evaluate the size of the intervention effect by dividing the difference in the means at pretest and posttest (M diff) by the standard deviation of the difference scores (SD diff), where Cohen's (1988) benchmarks for small, medium and large effects are 0.2, 0.5 and 0.8 respectively. All results are reported following the guidelines of the American Psychiatric Association (APA) 7th Edition guidelines, descriptive statistics are provided in tables, inferential statistics are provided as the t value and degrees of freedom (df) and exact p value, and effect size is provided alongside of inferential statistics.

Validity and Reliability

The pretest and posttest were taken from the Reading and Writing paper of the Cambridge Assessment English (CAE) exams, where the exam is a standardised test rigorously piloted and statistically analysed to guarantee reliability and validity across a range of learner groups. The reliability of the measurement was increased through writing assessments using an established and internationally recognised instrument as the basis for the study. For the intervention

materials, content validity was achieved by engaging the experts, as described in the Instruments section above, and checking the alignment between the MLBB-based tasks, the A2 CEFR writing descriptors and the real-world parallel tasks.

Ethical Considerations

This study was conducted with the approval of the UiTM Research Ethics Committee before data collection was carried out in compliance with the University's guidelines for research on human subjects. It was explained orally and in writing to all participants that participation was voluntary and that they could end their participation in this study at any time without academic consequences. Students were told that they'd run no risk of being penalised for not participating or of dropping out of the course. There was no one who wanted to withdraw and all the 29 participants completed both the pretest and posttest assessment. Student identification numbers were used to anonymise the pretest and post-test papers and there is no personally identifiable information either in the data reported or in the reporting of the findings.

Results

Pretest and Posttest Scores

The pretest and posttest scores for the study participants were analyzed. Students were assessed on the writing of a short (min. 25-word) email and a picture story (min. 35-word) task. A composite writing score was derived from the scores for both tasks. Descriptive Statistics of the pretest and post-test evaluations are shown in Table 3. The mean pretest score was 21.00 (SD = 4.93); the mean posttest score was 23.69 (SD = 4.71); and the mean difference score was 2.69. Pretest and posttest scores were positively correlated, $r(27) = .77$, $p < .001$, meaning that students with higher pretest scores tended to score higher at posttest scores.

Table 3: Descriptive Statistics for Pretest and Posttest Writing Scores

Assessment	N	M	SD
Pretest	29	21.00	4.93
Posttest	29	23.69	4.71

Statistical Analysis

A paired samples t test was used to determine if the change in scores, pretest to posttest, was statistically significant. The difference was significant, $t(28) = -4.39$, $p < .001$, and the 95% confidence interval for the difference in means was from -3.94 to -1.44. The results of these are summarised in Table 4.

Table 4: Paired-Samples T-Test Results

Pretest – Posttest	M	SD	t	df	p	95% CI
	-2.69	3.30	-4.39	28	< .001	[-3.94, -1.44]

Note: M = mean difference; SD = standard deviation of difference scores

Cohen's d paired samples were used to calculate effect size. A large effect (according to Cohen, 1988) was obtained with $d = 0.82$. A similar estimate was given by Hedges' correction for small sample bias, $g = 0.79$.

Discussion

Interpretation of Findings

The aim of this study was to find out whether the implementation of a five-session writing intervention based on the content of the game Mobile Legends: Bang Bang (MLBB) could be applied to improve the A2 writing of students who were not yet in the diploma. The data suggest that it did! The mean writing score rose from 21.00 ($SD = 4.93$) at pretest to 23.69 ($SD = 4.71$) at posttest, an average gain of 2.69 points. This difference was significant, $t(28) = -4.39$, $p < .001$ and for a relatively large effect size based on Cohen's d (0.82). The magnitude of the effect in this classroom-based intervention study with only five weeks of intervention is not common. The increase of 2.69 is small in absolute terms, but significant for learners who are working at the A2 threshold. Even for students whose writing has been previously hampered by limited vocabulary and some grammatical control, improvements in coherence and fluency, albeit small, can lead to increased preparation for the writing of the diploma level courses. The changes in writing abilities are likely to be significant only if they occurred over five weeks. Competence in writing is a gradual achievement and the gains apparent in the observation may be an early step in an ongoing process of improvement and not a change in writing competence itself. There was no attrition and all 29 students were completing both assessments and attending all sessions, and this would eliminate one potential threat to the validity of the improvement seen.

Links to Literature and Theoretical Framework

The results fit with and build upon previous studies in three ways. First, they confirm the results of previous studies of game-based learning and writing. Both Guo et al., (2024) and Yi and Yunus, (2023) found, through their own literature reviews, that digital games can provide tangible results in writing, specifically in grammar and structural control. The present study contributes to this evidence by highlighting that this can be achieved even if the game isn't being used during class hours. The MLBB content was not provided as an activity but as a provocation to prepare students to write about the activity of the game. This separation is important, because it implies that the motivating feature of the familiar cultural material, and not the mechanics of the game itself, may be all that is needed to improve the writing results. Secondly, the study expands the existing literature of MLBB. Based on the research conducted by Rahayu (2020) and Qothrunnada et al. (2024), there are improvements in students' writing skills of narration and vocabulary after using MLBB in the learning process. The present study confirms that these benefits are also true for A2-level pre-diploma students in a Malaysian university setting and illustrates how the two-stage scaffolding sequence (a game-based prompt followed by a parallel task in a real-world setting) can be a viable scaffolding model for this type of instruction. Third, the results provide a support for the empirical validity of the Sociocultural Theory (SCT) framework used in the research. Vygotsky's (1978) description of mediation using cultural tools was realised through the use of screenshots from MLBB, images of heroes and text surveys from within the game. These were culturally familiar to students and minimizing cognitive load by requiring them to create content based on prompts that they were not familiar with. The scaffolding was slowly phased out as students progressed from writing

about a hero to writing about a member of their family. A large effect size indicates this mediated effect (from familiar game content to parallel academic writing) was effective in our study. The peer review activities provided students with another level of scaffolding within the ZPD in which students shared their drafts and used a checklist to provide feedback to their peers.

Factors Contributing to Intervention Outcomes

Quantitative results alone do not explain why the intervention was successful. The findings of this study, through classroom observations, suggest several factors. At the beginning, students were silent and hesitant to write, which is in line with Ab Manan et al.'s (2023) study on the anxiety and disinterest of Malaysian pre-diploma students. The reluctance is similar to that of other researchers who made affective factors to willingness to participate a connection; however, Tobi et al. (2022) found no association between anxiety and willingness to communicate in a local online EFL context. Based on the results of the present study, it seems that the motivational and scaffolded nature of the prompts based on the MLBB is more associated with increased involvement than anxiety. The first time the MLBB content was introduced, the classroom environment changed and after the second session the students were warmer to the activities and were more vocal. Seemingly the affective barrier that is often associated with L2 writing was downed when writing about a game they recognised even though not played regularly. The two-stage structure was a clear pathway because learners did not have to make a single step from MLBB content to writing in an examination style. The transition from game task to parallel real-world task was made explicit in each session, with the skills deliberately transferred. Once students wrote a thank you letter to a colleague following writing a thank you letter to a teacher, the structural similarity was apparent, and the shift was not jarring. Peer review as part of each session afforded students a chance to read each other's writing and comment on the clarity or lack of clarity of writing, which provided a micro level of scaffolding for the group. Students who did not want to ask the instructor for help were willing to ask another student in the class. Instructional pacing was also modified based upon student confusion; it was found that students were confused with the initial instructions during the first session, so the researcher slowed the pace of speech, simplified language and signposted transitions more clearly. By Session 2, the students were "up to speed" and this responsiveness helped to reduce the potential of early frustration affecting engagement. In all five sessions, the researcher made a point of the link between the MLBB tasks, the real-world tasks and the A2 writing objectives, so that students could see that the game content was not distracting from these but was a tool for achieving them.

Implications for TESL Practitioners

The research has a number of practical implications. The familiarity of content can help to reduce the barrier to writing and students who are unwilling to write about abstract or unfamiliar topics may be more willing to write when prompted with out-of-school interests, like MLBB. The same applies to other games, media or cultural references that are familiar to the students; it is important that the material is familiar and has recognition value so that a lot of explanation does not need to be given before the student starts writing. The two-stage scaffolding structure in the current study (game-based prompt to real world parallel tasks) can be directly implemented and the transition from the two should be made explicit by pointing out the similarities in structure, vocabulary and purpose. It is difficult to stress the importance of clearly communicating the learning goals to the students; for the students in this study, the

learning goals of the MLBB tasks were repeatedly shown to be the same as those of the regular coursework, or else the game-based content would have the danger of being perceived as frivolous or supplementary. Peer review activities organized around clear checklists focused students on specific aspects of the writing—including clarity, connectors, and punctuation—and instructors who follow the same process should make clear the criteria for making and demonstrate how to make constructive comments. Finally, teachers need to expect some confusion during the first session of a new teaching method and slow down, reduce language and explain transitions, which are worth the extra care in subsequent weeks.

Conclusion

Summary of Findings

This research was conducted to determine the effect of the five-session MLBB integrated writing intervention for the A2 writing performance of pre-diploma students at UiTM Johor. Writing scores improved significantly from pretest ($M = 21.00$, $SD = 4.93$) to posttest ($M = 23.69$, $SD = 4.71$), $t(28) = -4.39$, $p < .001$, with a large effect size, Cohen's $d = 0.82$. There were no missing data and 100% of participants in all 29 groups completed the intervention. Teacher observation of the classroom showed that students were quiet and not very involved at the beginning but increasingly involved as the intervention went on. The two-stage structure was a useful scaffolding, using the MLBB to generate ideas first and then applying the same task in the real world, and eased the cognitive load involved in idea generation to allow the students to focus on the linguistic requirements of writing.

Pedagogical Implications

The study has a few implications for TESL practitioners. If the content is culturally familiar, it can be used as a good starting point for writing instruction, especially when the writing prompts are not inspiring to the students. There needs to be a clear transition between familiar writing and academic writing, and the clarity of the goals of the instruction is crucial so that students feel the game-based assignments are not 'entertainment but education'. Peer review with clear checklists can scaffold without overwhelming the teacher; new pacing and language will need to be adapted to the student's new experience with peer review.

Limitations

There are a number of caveats to note. The number of participants ($n = 29$) is small, and the results might not be generalizable to other pre-diploma cohorts and to learners with different proficiency levels. Random sampling was not possible in the setting of this study due to institutional restrictions, and the study utilized a convenience sample from a single intact class assigned to the researcher. The lack of a control group prevents making strong causal statements about the effect of the instructional program, since it is possible that the effect of the program is due to other factors such as extra instructional time, familiarity with the test and maturation. The length of the intervention was only five weeks, and it is not known if the gains are maintained over the longer term. The level of students' prior knowledge of MLBB was not uniform; however, differential prior exposure may not be reflected in quantitative analysis and could have impacted individual engagement in ways not captured by the quantitative analysis. Lastly, the researcher was the instructor, which may have resulted in an unrecognized bias in the way the intervention was delivered.

Recommendations for Future Research

These limitations should be addressed in future studies via replication with more participants from various classes or schools to further the generalisability. A randomized control trial with a comparison group would allow for firmer causal conclusions to be drawn regarding if and how MLBB content contributed to writing improvement. A longer intervention time and a delayed posttest would help to identify whether the gains in the intervention are maintained over time. Qualitative data on student perceptions – previously gathered in the larger mixed methods study from which this paper is drawn – will give greater understanding of the mechanisms of the observed improvement. Future research could also investigate whether previous gaming experiences have a moderating effect on the effect of game-integrated writing instruction, and comparative studies on different game content and/or scaffolding structures could be used to identify "active ingredients" in such interventions.

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