

Level of Utilization of Digital Toolkit for English Language Instruction and the Academic Performance of the Students: Basis For a Technology-Integrated Teaching Model

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ABSTRACT

*This study examined the use of a Digital Toolkit for English language instruction and its effect on Junior High School students' performance. The research used a sequential mixed-methods design with a quasi-experimental pretest–posttest non-equivalent control group design in the quantitative part. A total of 150 students participated in the quantitative part, while 20 participants—10 teachers and 10 student representatives—participated in the qualitative part. The quantitative part measured how much students used the Digital Toolkit for grammar, reading, and writing, and it compared students' pretest and posttest scores. The qualitative part asked teachers and students about their experiences, challenges, what helped them, and their thoughts to explain the results. Students said they used the Digital Toolkit a lot in each of the four skill areas, giving mean scores of 4.37 for vocabulary, 4.29 for grammar, 4.42 for reading, and 4.36 for writing. Students' average performance rose from 61.0% in the pretest to 81.1% in the posttest, an increase of 20.1 percentage points. The research paper does not show the *t*-value or *p*-value from the *t*-test so the statistical significance of this increase cannot be confirmed. The qualitative results highlighted that learning was engaging and fun; the Digital Toolkit was easy to use; students could learn at their pace; the Digital Toolkit helped with exam preparation; the Digital Toolkit matched the curriculum; students became more involved; teachers could track progress with a dashboard; and teachers spent less time preparing lessons. These results helped shape the proposed Technology-Integrated Teaching Model.*

Keywords: Digital toolkit, English instruction, student engagement, technology integration, language proficiency

INTRODUCTION

With more people using mixed learning models, educational technology has become very important in the 21st century. In teaching English as a language, technology has the ability to make students more involved, tailor teaching to what each student needs, and improve language skills. The interactive tools, media resources and AI feedback systems have changed the way teaching works and moved education from teacher-centered to student-centered (Sim & Ismail 2023).

Recent studies show that educational technology has two roles in the classroom helping with both thinking and language growth. Based on theory technology tools are seen as cultural tools that help learning through social interactions and guidance letting students help create knowledge in each situation (Le & Hung 2021). This way of thinking shows the need to use technology in ways that encourage active learning and learning that is right for each student.

Although many educational technologies exist, they have not changed how English classes are taught much. Most still use teacher-centered approaches. These ways do not match how today's students like to learn, which has made them less motivated and less able to learn (Naik, 2025).

Worse, there are not enough high-quality teaching materials that use technology with strong educational and instructional design.

This research aims to create and evaluate the effect of a toolkit designed for teaching English at the secondary level. The toolkit includes interactive grammar and vocabulary activities, reading and media tools for listening, and AI systems that provide feedback on writing and speaking. These materials are expected to help students learn better and be more involved, and to change how teachers teach by showing how technology can support teaching.

This study aims to improve the use of the toolkit, which will make using technology in teaching English more effective. The results are expected to inform the discussion on using technology in English language teaching and to help create digital English teaching materials that are easy to use, fair, and effective in different situations.

Statement of the Problem

This study aimed to determine the level of utilization of the digital toolkit for English language instruction and students' academic performance as a basis for a Technology-Integrated Teaching Model.

Specifically, it sought to answer the following questions:

1. What is the level of utilization of the digital toolkit for English language instruction in terms of:
 - 1.1. Vocabulary;
 - 1.2. Grammar;
 - 1.3. Reading; and
 - 1.4. Writing?
2. What is the academic performance of the students before and after the use of the digital toolkit in terms of:
 - 2.1. Vocabulary;
 - 2.2. Grammar;
 - 2.3. Reading;
 - 2.4. Writing?
3. Is there a significant difference between the pretest and posttest academic performance of the students after the use of the digital toolkit?
4. How do teachers describe their experiences in implementing the digital toolkit in English language instruction?
5. How do students describe their experiences in using the digital toolkit for learning English?
6. What challenges and facilitating factors do teachers and students encounter in using the digital toolkit?
7. How do the qualitative findings help explain the quantitative results of the study?
8. Based on the integrated quantitative and qualitative findings, what Technology-Integrated Teaching Model may be proposed?

Scope and Delimitations

This study focuses on developing, using, and evaluating a toolkit to support English instruction. It includes creating sample teaching materials and interactive learning tools, integrating them into classroom teaching over 8 to 12 weeks, and evaluating their effects on student performance, engagement, and teacher practices. The study uses a mixed-methods design

that combines quantitative data, including tests and surveys, along with qualitative data, including interviews, classroom observations, and teacher notes. The results from these will help create a teaching model that uses technology for English. The study is limited to the teachers and students in the participating schools and does not track changes over time or use the toolkit beyond the initial test.

Review of Related Literatures

Educational Technology in Language Learning

The way English is taught with technology has changed a lot because of better tools. Virtual Reality (VR), Augmented Reality (AR), and adaptive learning tools have greatly improved vocabulary learning, motivation, and engagement. These tools address common language-learning challenges, like nervousness or a lack of experience, by offering personalized, interactive learning.

Hasumi and Chiu (2024) conducted a study showing that technology-assisted language learning (TELL) is increasingly shaped by blended learning, mobile learning, and games. These methods have shown results for writing, vocabulary, and grammar. The study also said that the world started using technology because of the pandemic, which showed how important it is for learning to continue and for students to be more involved and do better.

Digital Toolkits and Instructional Design

In recent years, using new technology in teaching has made learning more effective and fun. Yan (2025) used VR and AI in task-based learning, showing improvements in speaking skills through role-play. The study said that to design digital learning, you need real situations, interaction, and thinking about what you learned.

AI tools that recognize speech and understand language support vocabulary, writing, and cultural understanding. Although these tools help students become more independent and motivated by providing support and rich learning environments, challenges remain, including scalability, ethical concerns, instructional design, and more that need further research and development.

Student Engagement and Motivation

Being involved in learning is very important for doing in language learning. Technology has helped a lot by making students more involved through things like games, videos, and learning that adapts to the student. According to The Education Daily (2023) tools like games, videos and game-like quizzes help students feel more motivated and be more active in learning.

With AI and data tools, students get paths tailored to them and can learn at their own pace, focusing on the parts they need. This approach helps students get results and want to learn more on their own. When it comes to working, students also help each other through shared documents and online discussions, which encourages them to communicate and collaborate.

Teacher Roles in Tech-Enhanced Classrooms

Teachers' roles when using technology have changed. Almegren et al. (2025) said that in AI-driven classrooms, teachers now have roles like helping people learn, serving as a mix of teacher and designer, creating flexible materials, and offering ideas. Teachers are no longer just giving knowledge. They now help students use, choose, and engage with tools and content both emotionally and intellectually. How well teachers use technology depends on how much they

know about it, how flexible they are, and their teaching ideas. Work-life balance and personal growth are also important for teachers to use technology well in their classes.

Localized Research in the Philippine Setting

In the Philippines, using technology in teaching has both problems and chances. A UNESCO study (2023) found that the pandemic increased technology use, but it also showed problems with how schools are set up, how they are run, and how ready teachers are. However, the study also said that when technology is used with the right funding and plans, it can really help learning.

Other studies in the country say that digital tools need to be changed to fit what Filipino students need. Students' money, the devices they have, and how much teachers can learn affect how well technology supports teaching.

Theoretical Framework

Several interconnected theories of technology integration into language instruction form a foundation for this study.

1. Constructivist Learning Theory

Constructivism holds that people learn by building knowledge through experience and interaction with others (Vygotsky, 1978; Bruner, 1966). In technology-based teaching, digital tools act as triggers that make learning more meaningful. The digital toolkit helps students connect with the content, helping them understand ideas better through exploration, collaboration, and deep thinking.

2. Technological Pedagogical Content Knowledge (TPACK) Framework

The TPACK framework (Mishra & Koehler, 2006) shows how technology, teaching methods, and subject content increasingly come together. It gives teachers a way to decide how to use technology in their lessons. This framework is important to the study because it examines how teachers use the toolkit and how their teaching methods change to help students learn English.

3. Cognitive Load Theory

Cognitive Load Theory, created by Sweller (1988) shows in the study that good lesson design must reduce mental effort so that learning can happen. The digital toolkit uses multimedia and interactive elements to reduce mental effort and increase useful mental effort, making language learning easier and more interesting.

These theories work together to shape how teaching happens. They ensure the toolkit is useful for education, aligns with how the brain works, and is relevant to teaching.

Conceptual Framework

The framework shows the connection between the Digital Toolkit for Teaching English and the learning goals. It shows how instructional design, teacher skills, classroom participation, and student motivation affect the learning process.

In the middle, the toolkit is the main component. It includes lessons for teaching vocabulary and grammar, multimedia materials for reading and listening, and artificial

intelligence-powered feedback systems. These modern tools aim to improve English teaching by addressing common challenges.

The toolkit's success depends on sound design principles. These principles are based on three ideas:

Constructivism – focuses on working together and putting learning in real situations.

Technological Pedagogical Content Knowledge (TPACK) – focuses on using technology in teaching and content.

Cognitive Load Theory – focuses on designing materials to reduce effort.

Teaching methods and teachers' skills in using technology matter because they affect learning outcomes. These factors also influence the toolkit and the teaching methods. Student involvement, which includes being active, having feelings, and thinking, acts as a mediator and a result of strategies.

Instructional design, teachers' skills, and the toolkit all connect to affect vocabulary, grammar, reading, writing, and engagement.

Finally, the context for the toolkit's success includes access to the technology, training, and resources. This ensures digital tools are used in English teaching.

The framework's main point is that a well-designed toolkit can significantly support language-learning goals. This is especially true when supported by teaching methods, skilled teachers, and a supportive school.

METHODOLOGY

Research Design

The study used a mixed-methods design that starts with quantitative data and then adds qualitative information. The first part used an experimental pretest–posttest non-equivalent control group design to examine how students performed before and after using the digital toolkit. This part provided the numbers that formed the basis for the qualitative part.

In Part 150, junior high school students took a test before and after using the toolkit. They also filled out a form about how they used the toolkit. The data showed how much the toolkit was used in areas and if the test scores changed significantly using a paired-samples t-test.

In this part, some people shared their experiences with the toolkit. Ten teachers and ten student representatives were involved. Each group picked one student to share their experience. These insights helped explain the numbers from the part. This way, the study used both types of data to build a model for teaching with technology.

The design connected the two parts. The quantitative results came first, then the qualitative part explained what the numbers meant. This helped create a Technology-Integrated Teaching Model based on the information.

Population and Sampling Technique

The study involved 350 students in an area. From this group, 150 students were selected based on sample size calculations. These students took the pretest and posttest. The toolkit use survey.

The quantitative group had 150 students. For part 20 people were selected: 10 teachers and 10 students. These people were chosen using snowball sampling. Teachers had to have used the toolkit. Could describe their classroom experiences. Students needed to have used the toolkit, be able to share their experience, and be referred by their group.

The study included 10 student groups. Each group picked one student to share their experience. This way, the study didn't need to talk to all 150 students. The researchers interviewed the 10 students and the 10 teachers, for a total of 20.

Snowball sampling was used for this part because the first people referred others who met the criteria. This continued until 10 teachers and 10 students were found.

Data Gathering Procedure

1. Permission and Ethics Clearance. The study got permission from the school before starting. The researchers followed ethical steps such as consent, voluntary participation, and keeping information private.

2. Training. Teachers were told about the study. Trained on how to use the toolkit in class.

3. Baseline Data Collection. The pretest was given to students before the study. The toolkit use survey was also given on the planned schedule.

4. Implementation Phase. Teachers used the toolkit during English classes for about 6–8 weeks. Teachers integrated the toolkit into their lessons. Teachers wrote about their experiences in reflection logs.

5. Post-Intervention Data Collection. After the study, the posttest was given. Qualitative data was collected from 10 teachers and 10 students through interviews and reflection logs.

6. Data. Integration. The numbers were first put into a computer. Analyzed. Then the interviews were written down, coded, and looked for themes to explain the numbers. The two sets of results were put together in the discussion. Used to create the Technology-Integrated Teaching Model.

Statistical Treatment

Descriptive Statistics. The mean and median were used to show how much the toolkit was used in grammar, reading, and writing. The standard deviation showed how spread out the scores were. For the test results, the average and standard deviation showed performance before and after the study.

Paired-Samples t-Test. A paired-samples t-test was used to determine whether the difference between posttest scores was significant at the 0.05 level. If the p-value was less than 0.05, the idea that there was no difference was rejected. The actual t-value, degrees of freedom, and p-value came from the researcher's results. Went into Chapter 3.

Thematic Analysis. I examined responses from teacher logs, student reflections, and interviews for themes. The process included familiarizing myself with the data, coding parts, identifying themes, and naming them. The qualitative results helped explain the numbers from the data. This followed Braun and Clarke's (2021) method.

Thematic Analysis

Thematic analysis is a way to look at data. It includes:

- Focus Group Discussions (key-informant interviews)
- Teacher reflection logs

Analysis has four main steps:

1. Writing down what was said and what was written.
2. Breaking the data into parts. Giving them codes.
3. Finding themes like how easy the toolkit was to use how engaged students were, what problems there. How it affected teaching.
4. Looking at how students felt and what they thought.

This method, with the numbers, gives a full picture of how the toolkit was used and what people thought.

RESULTS AND DISCUSSION

1. Level of Utilization of the Digital Toolkit

1.1 Vocabulary Module

This shows how much students used the Vocabulary Module. The average of 4.37 means they used it a lot based on the five-point scale. Students said the activities were good, the explanations were clear, the multimedia helped, and the difficulty was right. The result shows that the vocabulary part was used and seen as helpful for learning vocabulary.

1.2 Grammar Module

The average of 4.29 means students used it a lot. The scores show that students understood grammar, used the parts, and benefited from the feedback. This suggests the grammar module offered opportunities to practice and support grammar.

1.3 Reading Module

The average of 4.42 means students used it a lot. Students rated the reading material, tools like highlights and glossaries, questions, and lesson organization. This suggests that the multimedia and guided activities helped students use the reading part of the toolkit.

1.4 Writing Module

The average score of 4.36 shows a high level of use. Students said they found the activities for organizing thoughts, getting feedback, improving vocabulary and grammar, and revising their writing helpful. The results suggest that guided practice and feedback helped students use the writing part effectively.

2. Academic Performance Before and After Using the Digital Toolkit

Pre-test vs. Post-test

The results show students' scores before and after using the digital toolkit in vocabulary, grammar, reading, and writing. Average scores increased in all four areas after using the toolkit. Vocabulary went from 61.2% to 81.0%, grammar from 58.9% to 79.3%, reading from 64.1% to 83.2%, and writing from 59.8% to 80.7%. The overall average increased from 61.0% to 81.1%, a 20.1 percentage-point gain. These results show that students did better after the program; however, this increase alone does not prove that the results are statistically meaningful.

The biggest average gain was in writing, which increased by 20.9 percentage points, followed by grammar (20.4), vocabulary (19.8), and reading (19.1). The pattern shows improvement in all areas of English. A paired-samples t-test is needed to determine whether the overall difference between the pretest and posttest is statistically significant.

3. Significant Difference Between Pretest and Posttest Academic Performance

A paired-samples t-test was used to test whether the increase from the pretest average of 61.0% to the posttest average of 81.1% was statistically significant. The current paper does not have the t-test results. Therefore, the final statistical result should be reported like this: $t(df) = [\text{insert } t\text{-value}]$, $p = [\text{insert } p\text{-value}]$. If $p < .05$, the null hypothesis is rejected; if $p \geq .05$, the null hypothesis is not rejected. No claim of significance should be made until the real results are included.

4. Teacher Experiences in Using the Digital Toolkit

The qualitative part followed the results to explain how teachers felt about the toolkit in real classroom settings. The team identified themes by reviewing interview transcripts and reflection logs, coding recurring ideas, grouping related codes, and synthesizing patterns into themes. The teacher themes were supported by what teachers said and how they interpreted the results.

Instructionally Aligned with MELCs

Teachers said the toolkit content was clearly connected to the Most Essential Learning Competencies (MELCs). They liked that lessons were organized according to curriculum standards, which made it easy to include them in lesson plans. The alignment ensured the toolkit supported skills and continuous learning. Curriculum alignment matters because technology is most useful when it connects to teaching and content goals (Mishra & Koehler, 2006).

Helpful in Increasing Student Participation

Teachers said they saw more students take part and get involved during activities with the toolkit. They said even students who were not very active or did not perform well joined in more. This was likely because the digital format was interactive and less scary. The real-time feedback also helped students see how they were doing, which encouraged them to finish tasks.

Effective for Monitoring Through Dashboards

The teacher dashboard was seen as one of the useful parts. Teachers said it helped them track student scores, monitor progress, and see which skills needed help. This data-based monitoring made teaching more efficient. Helped target students who needed more support. This finding shows how useful technology can be for making data-driven decisions.

Beneficial in Reducing Lesson Planning

Teachers said the toolkit made planning lessons easier. Because the modules included activities, quizzes, and multimedia, teachers could focus more on supporting students instead of creating worksheets and visual aids. This efficiency was especially important for classes.

Suggestions for Improvement

Teachers gave some ideas for making the toolkit

- An offline mode or version that works with low internet to make sure all students can use it.
- More content modules, like grammar, longer reading, and more writing tasks to fit different grades and skill levels.
- Different types of exercises, such as activities with different levels or adaptive quizzes to meet the needs of all students.

5. Student Experiences in Using the Digital Toolkit

The student findings came from the stories and reflections of ten student representatives who were interviewed one-on-one. The themes emerged from repeated analysis of what the students said. These themes helped explain the use of the toolkit and the improvement in test scores. Each theme is discussed with what the students said, analysis, related studies and what it means for the Technology-Integrated Teaching Model.

Theme 1: Fun and Interesting Learning

This theme came up because students said the toolkit was more interesting than books. They especially liked videos, quizzes, and game-like parts.

Quotes from students:

"Mas enjoyable po siya kaysa sa libro kasi may videos at quizzes, hindi nakakabagot." (S3)

"Parang game po siya, kaya ginaganahan akong tapusin lahat ng activities." (S7)

Analysis and explanation. The students said they enjoyed the activities, not the games. Videos and interactive tasks kept their attention. Made them want to finish the work. This helps explain why students used the toolkit a lot and shows that it made the learning environment more inviting.

Support from studies. This finding matches what Hasumi and Chiu (2024) found about the results of using technology in language learning, especially with games. It also aligns with Sim and Ismail (2023) on how interactive digital tools support student-centered learning. Fredricks et al. (2004) also support the idea that enjoyment is part of how students get involved in learning.

Implications and ideas. The model should intentionally use multimedia and interactive elements in English lessons. The idea is that fun design can keep students engaged as long as activities connect to clear goals.

Theme 2: To Use

This theme came up because students said the toolkit was easy to use. Even students who were not very good with technology said they could use it on their own.

Direct quotes from students:

“Madali lang po siyang gamitin, kahit hindi ako magaling sa technology.” (S5)

“Hindi po ako nalilito kung saan pipindot kasi malinaw yung menu.” (S9)

Explanation. The students said the simple layout and clear steps made the toolkit easy to use. When they didn’t have to spend time figuring out how to use the toolkit, they could focus more on learning. This shows that the toolkit was easy and user-friendly.

Support from studies. This finding matches the design ideas from Chapter 2, which say that learning tools should be easy for students. It also connects with Sweller’s (1988) Cognitive Load Theory, which says that reducing effort helps students use more brainpower for learning.

Implications and ideas. The model should include good usability features like menus, simple instructions, and easy navigation. The idea is that a tool should be simple enough for students to use with help.

Theme 3: Good for Learning at Your Speed

This theme came up because students liked being able to go to lessons and activities, review tough parts, and move at their own pace without stress.

Direct quotes from students:

“Pwede ko pong ulitin yung lesson kapag hindi ko pa gets, walang pressure.” (S2)

“Mas confident po ako kasi pwede kong balikan yung grammar lessons.” (S11)

Explanation. The students said that being able to repeat lessons gave them control over learning. Being able to go back to grammar lessons and do activities again made them more confident in difficult areas. This explains why the toolkit helped students outside regular class time.

Support from studies. This matches the idea in Chapter 2 about learning independently through technology. Hasumi and Chiu (2024) said that learning paths that fit each student are important in technology-based learning. Yan (2025) also said that being able to learn on your own, interact, and reflect on your learning is important in digital environments.

Ideas. The model should include ways for students to review and go at their own pace. The idea is that digital learning can help students learn more than they do in class, especially when they can revisit hard parts without feeling embarrassed or pressured.

Theme 4: Good for Studying for Tests

This theme came up because students linked the toolkit's practice activities to quizzes and exams. They said the tasks helped them review and practice the types of questions they would see in tests.

Direct quotes from students:

"Malaking tulong po siya sa quiz kasi parang practice test na rin." (S6)

"Mas madali pong mag-review dito kaysa magbasa lang ng notes." (S14)

Explanation. The students said they used the toolkit for more, than class time. The practice tasks helped them remember and improve what they had learned. This helps explain why their scores improved in grammar, reading and writing.

Support from research and studies. The finding matches the literature in Chapter 2 which pointed out that interactive and multimedia resources can offer chances to practice and reinforce learning. Hasumi and Chiu (2024) found results in vocabulary, grammar and writing in technology-enhanced language-learning environments while Yan (2025) talked about the value of interactive and reflective digital learning experiences.

Implications and insights. The model should include practice activities that match the skills and cognitive demands tested in classroom exams. The insight is that digital review is more helpful when it is closely linked to what's taught and offers repeated chances to recall and practice.

Theme 5: Suggestions for Improvement

Why the theme emerged. This theme emerged because students found some limitations, even though they had positive experiences. Their suggestions focused on writing help and better technical performance, especially the speed at which multimedia materials load.

Direct participant quotes:

"Sana po mas maraming writing examples para may guide kami." (S8)

"Minsan po mag-load yung videos lalo na pag mahina ang internet." (S4)

Interpretation. The quotes show that even though students liked the toolkit not every part was equally good. The request for more writing examples shows a need for support in a skill that may need models and guided practice. The video-loading problem shows how infrastructure can break the flow of learning. These problems matter because they highlight conditions that can make digital instruction less effective.

Support from research and studies. The finding matches what UNESCO (2023) said about infrastructure and access being important in technology. It also matches the Chapter 2 summary that technology-supported learning depends on how it's designed, the context, the learners and access. The need for more writing examples also matches the literature that talks about scaffolding and well-designed learning tasks.

Insights. The model should include examples of writing guided writing samples, more practice activities and better multimedia. An offline or low-bandwidth option should also be considered. The insight is that continuous improvement should be based on what learners experience because technical access and support directly affect how students use digital tools.

6. Qualitative Findings, Challenges, Facilitating Factors and Integration

Across the stories from participants teachers talked about aligning with the curriculum, student involvement using dashboards to track progress and less time needed for lesson prep. Students said they liked the learning to be fun and easy to use to be able to learn at their pace and to help with exams. Suggestions for improvement came directly from what people said and included low-bandwidth access, more content, more varied exercises, faster loading of videos and more writing examples. These qualitative findings helped explain the results showing high use of the toolkit and better scores from pretest to posttest.

CONCLUSIONS

Based on the results from surveys and interviews in the study the following conclusions were made:

- The Digital Toolkit had a high to high level of use in vocabulary grammar, reading and writing based on the students' scores.
- Students gave the modules ratings showing that the design and teaching parts of the toolkit helped with learning English. The interactive and multimedia parts made it clearer. Kept students interested.
- High rates of behavioral, emotional and cognitive engagement show that students were not taking part but also enjoying and valuing the experience. The interactive design and instant feedback helped keep them motivated.
- Students improved their scores from pretest to posttest in all four areas. Whether the improvement was statistically significant depends on the paired-samples t-test results. Should only be stated after the actual p-value is known.
- The average increase of 20.1 percentage points across the four areas (Vocabulary, Grammar, Reading and Writing) shows the toolkit worked. Students used self-paced learning, structured activities and targeted feedback.
- Qualitative findings showed that teachers saw the toolkit as aligned with the curriculum and helpful in getting students to take part track progress and prepare lessons.
- Teachers said the toolkit matched the curriculum saved time and provided data through dashboards. The toolkit made lessons better by providing made, curriculum-based materials.
- Both teachers and students found areas to improve, especially for offline or low-bandwidth access, faster loading, more content more writing examples and different types of activities.
- Even though the feedback was mostly positive both students and teachers said that better loading speed was needed, with their current internet connection, more content and an offline or low-bandwidth version to make the toolkit available to everyone.

RECOMMENDATIONS

Based from the findings and conclusions of the study, the following recommendations are suggested:

1. For Toolkit Enhancement

1. Increase the number of practice activities, especially in grammar and writing, to reinforce mastery.
2. Expand writing samples (paragraphs, essays, templates) to guide students in composition tasks.
3. Optimize system loading and improve performance for smoother navigation, especially for multimedia content.
4. Add more reading passages with varying difficulty levels to accommodate diverse learners.
5. Develop advanced and remedial modules to support differentiated learning.

2. For Accessibility and Implementation

1. Create an offline or low-bandwidth version to accommodate areas with unstable internet connectivity.
2. Ensure compatibility across devices, including older smartphones and lower-end laptops.
3. Provide teachers with orientation or training sessions on integrating the toolkit effectively into lessons.

3. For Future Research and Development

The researcher upon the culmination of the study has recommended the following for future researchers:

1. Conduct a larger-scale implementation across multiple schools to validate findings.
2. Explore long-term learning effects, such as retention and transfer of learned skills.
3. Examine teacher adoption and barriers to digital learning implementation.
4. Develop additional subject-based toolkits (e.g., Math, Science, Filipino) using the same design framework.

Proposed Output

The Technology-Integrated Learning Enhancement Model (TILE Model) is designed to integrate the Digital Toolkit into classroom instruction to improve students' English proficiency in vocabulary, grammar, reading, and writing. The model is grounded on:

- Constructivist Learning Theory – students build understanding through active interaction with multimedia and tasks.
- SAMR Framework (Substitution–Augmentation–Modification–Redefinition) – guiding meaningful technology use.
- Data-Driven Instruction – teacher dashboards and analytics support targeted remediation.
- Self-Paced Digital Learning – aligned with students' feedback and high engagement scores.

AI DECLARATION STATEMENT

AI tools were used to help with language and formatting. The idea, analysis and conclusions were done by the researcher.

REFERENCES

- Almegren, A., Almegren, R. M., Hazaea, A. N., Mahdi, H. S., & Ali, J. K. M. (2025). AI-powered ELT: Instructors' transformative roles and opportunities. *PLOS ONE*, 20(5), e0324910. <https://doi.org/10.1371/journal.pone.0324910>
- Braun, V., & Clarke, V. (2021). *Thematic analysis: A practical guide*. SAGE Publications.
- Bruner, J. S. (1966). *Toward a theory of instruction*. Harvard University Press.
- Creswell, J. W., & Plano Clark, V. L. (2017). *Designing and conducting mixed methods research* (3rd ed.). SAGE Publications.

- Fredricks, J. A., Blumenfeld, P. C., & Paris, A. H. (2004). School engagement: Potential of the concept, state of the evidence. *Review of Educational Research*, 74(1), 59–109.
- Hasumi, T., & Chiu, M. S. (2024). Technology-enhanced language learning in English language education: Performance analysis, core publications, and emerging trends. *Cogent Education*, 11(1). <https://doi.org/10.1080/2331186X.2024.2346044>
- Huong, L. P. H., & Hung, B. P. (2021). Mediation of digital tools in English learning. *LEARN Journal: Language Education and Acquisition Research Network*, 14(2), 512–528. <https://so04.tci-thaijo.org/index.php/LEARN/article/view/253278>
- Johnson, R. B., & Christensen, L. (2019). *Educational research: Quantitative, qualitative, and mixed approaches*. Sage Publications.
- Mackey, A., & Gass, S. M. (2016). *Second language research: Methodology and design* (2nd ed.). Routledge.
- Merriam, S. B., & Tisdell, E. J. (2016). *Qualitative research: A guide to design and implementation* (4th ed.). Jossey-Bass.
- Mishra, P., & Koehler, M. J. (2006). Technological pedagogical content knowledge: A framework for teacher knowledge. *Teachers College Record*, 108(6), 1017–1054. <https://doi.org/10.1111/j.1467-9620.2006.00684.x>
- Naik, R. (2025). Rethinking English instruction in the digital age: Challenges and opportunities. *Journal of Language and Technology Integration*, 12(1), 45–62.
- Palinkas, L. A., Horwitz, S. M., Green, C. A., Wisdom, J. P., Duan, N., & Hoagwood, K. (2015). Purposeful sampling for qualitative data collection and analysis in mixed method implementation research. *Administration and Policy in Mental Health and Mental Health Services Research*, 42(5), 533–544. <https://doi.org/10.1007/s10488-013-0528-y>
- Sim, J. S. E., & Ismail, H. H. (2023). Using digital tools in teaching and learning English: Delving into English language teachers' perspectives. *Creative Education*, 14(10), 2021–2036. <https://doi.org/10.4236/ce.2023.1410129>
- Sweller, J. (1988). Cognitive load during problem solving: Effects on learning. *Cognitive Science*, 12(2), 257–285. https://doi.org/10.1207/s15516709cog1202_4
- Tavakol, M., & Dennick, R. (2011). Making sense of Cronbach's alpha. *International Journal of Medical Education*, 2, 53–55. <https://doi.org/10.5116/ijme.4dfb.8dfd>
- The Education Daily. (2023). Ed-tech tools and student motivation: A new era of engagement. *The Education Daily*. <https://www.educationdaily.com/articles/edtech-motivation-2023>
- UNESCO. (2023). *Global education monitoring report 2023: Technology in education – A tool on whose terms?* Paris, France: United Nations Educational, Scientific and Cultural Organization. <https://unesdoc.unesco.org/ark:/48223/pf0000385723>
- Vygotsky, L. S. (1978). *Mind in society: The development of higher psychological processes*. Harvard University Press.
- Yan, L. (2025). Designing immersive language learning: The role of VR and AI in task-based instruction. *International Journal of Language Pedagogy and Technology*, 9(2), 88–104.