The Effectiveness of 'Word Whiz: Fun with Words' in Enhancing Vocabulary among Year 2 Remedial Pupils

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ABSTRACT

This study investigates the effectiveness of Word Whiz: Fun with Words, a gamified educational module, in enhancing vocabulary acquisition among Year 2 remedial pupils in Malaysia. A purposive sample of 33 Year 2 remedial pupils participated in the intervention which was implemented over eight weeks. By using a pre-test and post-test design to assess improvements in vocabulary knowledge, the study found a significant increase in students' vocabulary scores, with a mean score of 2.67 (SD = 2.287) in the pre-test, which increased to 8.00 (SD = 3.182) in the post-test. The paired-sample t-test showed a significance level of $p < 0.001$, indicating a statistically significant improvement in vocabulary acquisition. Additionally, teacher feedback highlighted increased student engagement and motivation, with teachers expressing positive perceptions of the module's effectiveness in supporting remedial learners. These findings suggest that Word Whiz: Fun with Words can be an effective tool in improving vocabulary acquisition among Year 2 remedial pupils.

Keywords— Vocabulary acquisition, gamified module, Year 2 remedial pupils, teacher perceptions, remedial education

INTRODUCTION

English is widely recognised as a global lingua franca that essential for facilitating communication and global competency (British Council, 2020). Its importance is reflected in the educational goals of many nations, including Malaysia, where English is taught as a compulsory subject in schools. In order to acquire a good grasp of comprehension, reading skills, and verbal communication, one needs to have a robust vocabulary knowledge. This statement is supported by the Organisation for Economic Co-operation and Development.

(OECD, 2021) that believes proficiency in the language is pivotal for students to achieve academic success and prepare for the demands of globalisation.

In Malaysia, the Ministry of Education has outlined proficiency benchmarks within the Malaysia Education Blueprint (2013–2025), requiring pupils to achieve an A2 proficiency level by the end of primary school. However, a significant number of students fail to meet this standard due to various factors, including socio-economic disadvantages, lack of exposure to rich language environments, and insufficient vocabulary knowledge (Vadivel et al., 2023). These pupils, often categorised as remedial learners who experience persistent challenges in their academic journey, particularly in mastering foundational language skills.

Remedial pupils are learners who require additional educational support due to consistent academic struggles. Many of these students face difficulties stemming from limited prior exposure to academic content, learning disabilities, or inadequate engagement in language-rich environments (Ahmad et al., 2022). Consequently, these pupils often being left behind their peers in vocabulary acquisition that leads to challenges in understanding academic texts, participating in classroom discussions, and excelling in assessments. Without targeted interventions, this vocabulary gap is likely to widen which seems to further impede their academic progress and self-confidence.

Despite the critical role of vocabulary knowledge in academic success, existing teaching methods often fail to

address the unique needs of remedial pupils. Traditional approaches tend to lack the engagement and individualised support necessary for these learners. There is a growing demand for innovative teaching tools that can bridge this gap by providing meaningful and interactive learning experiences. Research suggests that gamified learning, which incorporates game-based elements to enhance engagement and motivation as it can significantly improve vocabulary acquisition (Lau, 2021).

Word Whiz: Fun with Words, an educational gamified module, was developed to address these challenges. Designed specifically for Year 2 remedial pupils, the module integrates interactive visuals, immediate feedback, and a rewards system to create an engaging vocabulary-learning experience. Additionally, parental involvement plays a critical role in the module's implementation, as studies have shown that active parental participation significantly improves students' academic outcomes (Lui et al., 2020).

This study seeks to evaluate the effectiveness of Word Whiz in enhancing the vocabulary acquisition of Year 2 remedial pupils in Malaysia. By addressing the existing gaps in resources and exploring the potential of gamified learning approaches, this research aims to provide valuable insights into improving English language instruction for remedial learners.

This research purposes are as below:

Research Objectives

RO1: To evaluate the effectiveness of 'Word Whiz: Fun with Words' in enhancing vocabulary acquisition among Year 2 remedial pupils.

RO2: To identify teachers' perceptions of using 'Word Whiz: Fun with Words' for their remedial pupils.

Research Questions

RQ1: Does 'Word Whiz: Fun with Words' effectively enhance vocabulary acquisition among Year 2 remedial pupils?

RQ2: What are teachers' perceptions of using 'Word Whiz: Fun with Words' for their remedial pupils?

Research Hypothesis

H_0: There is no significant difference between the pre-test and post-test vocabulary scores of Year 2 remedial pupils after using 'Word Whiz: Fun with Words'.

LITERATURE REVIEW

Vocabulary Learning

Vocabulary is fundamental to language acquisition and overall academic performance. It forms the basis for reading comprehension, communication, and literacy skills (Kasturi, 2023). Limited vocabulary knowledge among learners can hinder their engagement in learning activities which will affect their academic success. Research emphasises that vocabulary development is critical for improving learners' proficiency and enabling them to participate effectively in classroom tasks (Shakeel, 2022). Also, recent studies supported above statement by stating that in order to improve vocabulary retention and motivation, multimodal approaches including gamification will come handy (Kim, 2022; Sun et al., 2023). For remedial pupils, developing vocabulary is even more essential, as it bridges the gap between their existing knowledge and academic expectations. This will help them in fostering better engagement and comprehension in language learning.

Educational Gamified Modules

Lau (2021) highlights that gamified learning modules have emerged as an effective tool for enhancing vocabulary acquisition. By incorporating interactive and engaging elements, gamification captures learners' interest, provides immediate feedback, and fosters motivation. Studies have demonstrated that gamified

approaches improve vocabulary retention, especially among young learners, by transforming abstract learning into tangible experiences (Ghani, 2021). Furthermore, these modules cater to the diverse learning styles of remedial pupils which providing a structured yet enjoyable framework for language development.

The module Word Whiz: Fun with Words aligns with this approach by integrating point-based rewards, interactive activities, and parental involvement to make learning more dynamic and engaging. Such innovative methods address the challenges faced by remedial pupils and offer practical solutions for vocabulary acquisition in educational settings.

Partnership with Parents

Parental involvement plays a crucial role in enhancing children's vocabulary learning. Grolnick and Slowiaczek (1994) categorise parental involvement into three types: (1) behavioural, (2) cognitive-intellectual, and (3) personal involvement. These forms of involvement significantly enhance children's motivation and engagement in learning activities, leading to improved outcomes (Mathai, 2024). Research has shown that creating a language-rich environment at home that is being supported by parental encouragement, enhances vocabulary development among young learners (Ni et al., 2021).

In the Malaysian context, where socio-economic disparities may limit access to resources (Palermo, 2024), parental involvement becomes even more vital. Parents' active participation in their children's learning through modules like Word Whiz helps bridge the gap between home and school environments, fostering continuity in vocabulary learning.

Theoretical Framework

1. Brown and Payne's Vocabulary Learning Theory: Brown and Payne (1994) outline five essential stages for vocabulary acquisition: encountering new words, getting the word form, grasping the word meaning, consolidating the word form and meaning, and using the word. This theory underscores the importance of repetition and multimodal exposure in mastering vocabulary.

2. Multimodal Theory: The multimodal theory suggests that learning becomes more effective when various sensory modes are incorporated into the process. This aligns with gamified modules, which integrate visual, auditory, and kinesthetics elements to reinforce vocabulary learning (Isnin, 2021).

3. Constructivist Theory: Constructivist principles, particularly Piaget's emphasis on reward systems, inform the design of Word Whiz: Fun with Words. The use of rewards and interactive activities fosters intrinsic motivation among learners, encouraging active participation and sustained engagement.

4. Grolnick and Slowiaczek's Involvement Theory: This theory highlights the impact of parental involvement on a child's learning outcomes. The categorisation of parental involvement into behavioural, cognitive-intellectual, and personal dimensions provides a framework for understanding how parents contribute to vocabulary learning through activities and encouragement.

Literature Gap

While substantial research exists on vocabulary acquisition and gamified learning, few studies focus specifically on remedial pupils in Malaysian primary schools. The majority of existing studies target general populations or secondary school learners, overlooking the unique challenges faced by remedial pupils (Lukas & Yunus, 2021). Additionally, there is limited research on the effectiveness of parental involvement in gamified learning modules tailored for this group. Addressing these gaps is essential for developing targeted interventions that enhance vocabulary learning for remedial pupils.

METHODOLOGY

Research Design

This study employed a quasi-experimental single-case design to evaluate the effectiveness of Word Whiz: Fun

with Words in enhancing vocabulary among Year 2 remedial pupils. The design involved a pre-test and post-test to measure the impact of the intervention. Additionally, qualitative data were collected through teacher interviews to gather insights into their perceptions of the module.

Participants

The study involved a purposive sample of 33 Year 2 remedial pupils from a Malaysian primary school. These pupils were identified based on their low English proficiency, particularly in vocabulary acquisition and gained [1]TP 1 and TP 2 in their previous performance. Teachers from the same school provided feedback as part of the qualitative data collection process.

Intervention

The intervention was conducted over eight weeks during regular school hours. The Word Whiz: Fun with Words module, an educational gamified tool, was used as the primary learning resource. This module integrated interactive vocabulary-building activities, point-based rewards, and parent-participation features to make the learning process engaging and supportive. Parents were involved in reinforcing vocabulary learning at home through module-related tasks.

To ensure the validity of the module, two experts reviewed its content: a senior lecturer specialising in English education and a head panel of English teachers from the participating school. The module was validated for alignment with the Dokumen Standard Kurikulum dan Pentaksiran (DSKP) for English subject set by the Malaysian Ministry of Education and the suitability for remedial pupils.

Data Collection Method and Procedure

Pre-Test and Post-Test: A formative pre-test was administered to the pupils to establish baseline vocabulary knowledge. After the eight-week intervention, a formative post-test was conducted to measure any improvements in their vocabulary acquisition. The same test given was using a vocabulary inventory, where pupils were evaluated their familiarity with 15 words by placing a tick (/) in one of three columns: 1) I do not know this word, (2) I know this word but I do not know the meaning, or (3) I know this word and I know the meaning. The question was designed considering their capabilities to attend to the questions.

The format allowed for a self-assessment of vocabulary recognition and comprehension. The results were analysed by comparing the number of words categorised in each column before and after the intervention. With an increased in the third column indicating vocabulary growth.

Teacher Interviews: Semi-structured interviews were conducted with a remedial teacher to gather the perceptions of the module's effectiveness in addressing the learning needs of remedial pupils. The interviews also explored teacher's observations of pupil engagement, retention, and participation.

Data Analysis Method

Quantitative Analysis: The pre-test and post-test scores were analysed using a paired t-test to determine the statistical significance of the vocabulary improvement. The reliability of the content validation process was measured using Cronbach's alpha, calculated via XLSTAT, showing a reliability score of 0.78.

Qualitative Analysis: Thematic analysis was conducted on the teacher interview transcripts to identify recurring themes related to the module's implementation and effectiveness. This included teacher feedback on pupil engagement, the module's design, and suggested improvements.

Ethical Considerations

Ethical guidelines were strictly adhered to throughout the study. Informed consent was obtained from the school, parents, and teachers. Respondents anonymity and confidentiality were maintained whereby the researcher is using pseudonym to address the interviewee. The study followed the ethical approval procedures outlined by the Ministry of Education, Malaysia.

FINDINGS AND DISCUSSIONS

Validation of the Educational Gamified Module

The content validity of the Word Whiz: Fun with Words module was reviewed and validated by two experts in the field of English education. The first expert was the Head Panel of English from the school, and the second was a Senior Lecturer from a teacher training institution (IPG). The Cronbach's Alpha reliability coefficient was calculated using XLSTAT and the Content Validity Index (CVI) was found to be 0.78, indicating a high level of consistency and reliability in the module's content.

The Head Panel of English provided positive feedback, praising the module for its well-structured design and quality content. The expert acknowledged that the module had been particularly beneficial for low-achieving pupils in learning English, and it had received positive feedback from both parents and students. The Head Panel further noted that the module was thoughtfully planned and expressed confidence that it would be used consistently in future years. Additionally, officers from PPD Kuala Selangor reviewed the module and recommended it as a model for other schools in the district, which was considered a significant achievement.

Similarly, the Senior Lecturer praised the design and visuals of the module, noting that the use of digital tools effectively supported the learning tasks and activities. The module was deemed accessible to students, teachers, and parents, making it a valuable resource. The Senior Lecturer suggested that additional information be added to the introduction page of the module to improve its face validity. Furthermore, the Senior Lecturer certified that the module aligned well with the DSKP Bahasa Inggeris curriculum by the Ministry of Education and recommended the researcher and school apply for Harta Intelek (Intellectual Property) to protect the resource.

Effectiveness of the Module

The statistical analysis of the pre-test and post-test scores was conducted using a T-test has revealed a significant improvement in vocabulary acquisition among the students after using the 'Word Whiz: Fun with Words' module. The pre-test scores (M = 2.67) and post-test scores (M = 8.00) indicated a mean difference of 5.33 points. The t-test result, $t(32) = -14.45$, $p < .001$, reveals a statistically significant improvement in vocabulary scores after the intervention. This significant difference strongly suggests that the module had a positive impact on the pupils' vocabulary acquisition.

The increase in post-test mean scores demonstrates that the module effectively addressed gaps in students' vocabulary knowledge. The interactive and gamified approach likely contributed to this improvement by creating an engaging and supportive learning environment which as highlighted by teachers in interviews. Furthermore, the inclusion of parental involvement may have further reinforced the learning process, motivating pupils to stay committed to the program.

Table 1: Paired Samples T-Test Results

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	PRE TEST	2.67	33	2.287	.398
	POST TEST	8.00	33	3.182	.554

Paired Samples Correlations

		N	Correlation	Significance	
				One-Sided p	Two-Sided p
Pair 1	PRE TEST & POST TEST	33	.747	<.001	<.001

1. Teacher's Perception: The thematic analysis of teacher interviews revealed several key findings regarding their perceptions of the 'Word Whiz: Fun with Words' module. These findings are organised into themes along with specific examples provided to illustrate each point.

2. Teacher's Experience: Teacher Y shared their familiarity with the module and its integration into their teaching practices. Teacher Y stated, "I'm very familiar with it. It's a staple in my classroom," highlighting the module's consistent use. Their extensive experience in teaching remedial pupils, such as one teacher mentioning, "I've been teaching English for 11 years and 4 months now," emphasized their capability to evaluate the module effectively.

3. Module Implementation: The module was regularly used in classrooms, with they noting, "Almost every day. It's a consistent part of our routine." Teachers also described their strategies for implementation, such as taking time to review the module before each lesson: "I take about 5 minutes before the lesson to read through the module with my students." This demonstrates the module's practicality and adaptability to existing teaching routines.

4. Student Engagement: Teacher Y observed high levels of engagement among pupils, attributed to the module's interactive and visually appealing design. They remarked, "The pictures in the module really caught their attention," illustrating the importance of visuals in capturing pupils' interest. Additionally, gradual improvement in students' efforts was noted, with them saying, "I noticed they started to make more of an effort and worked through each page."

5. Content Quality: The module's content was praised for its appropriateness and relevance. Teacher found the vocabulary relatable and suitable for remedial pupils. For example, they commented, "The vocabulary is basic, which is perfect for my students." However, they also suggested adding more topics aligned with the Year 2 syllabus: "It might be good to add more topics from the Year 2 syllabus."

6. Strengths of the Module: Teacher identified key strengths of the module, such as its visual aids and assessment components. Teacher Y highlighted, "The visuals help reinforce the vocabulary," while another mentioned, "The exercises at the end of each section test their understanding." Additionally, the module's collaboration with parents was noted as a positive factor, with teacher explaining that it helped sustain student motivation: "The collaboration with parents does help the students to stay motivated."

7. Weaknesses and Challenges: Some limitations were identified, including the module's limited content. They stated, "I wish there are more vocabularies to help pupils," suggesting the need for expansion. Motivation barriers were also noted, "Some students lacked the motivation to read and finish the module." To address this, teacher employed strategies like rewarding pupils with stickers: "I rewarded them with stickers to give extra motivation."

8. Effectiveness: The module's effectiveness was evident in improved vocabulary recall and usage. Teacher Y shared, "I've seen noticeable improvement in their ability to recall and use the vocabulary." Visual learning also played a key role, with pupils successfully associating pictures with words: "Students were able to point out the correct pictures associated with vocabulary words."

9. Suggestions for Improvement: Teacher provided constructive feedback, such as adding more topics and incorporating fun activities. One suggestion was, "Include crossword puzzles, quizzes, or games to keep pupils engaged." Additionally, they recommended developing a continuation module to ensure sustained progress: "Come up with a continuation so that all teachers can experience what I had."

Discussion

RO1: To evaluate the effectiveness of 'Word Whiz: Fun with Words' in enhancing vocabulary acquisition among Year 2 remedial pupils.

The quantitative findings from the pre-test and post-test scores demonstrated a statistically significant improvement in vocabulary acquisition among pupils who used the module. This supports the hypothesis that

Word Whiz: Fun with Words would lead to measurable improvements in pupils' vocabulary proficiency. The findings also answer the research question on whether the module effectively enhances vocabulary learning, affirming its success in meeting this goal.

These results corroborate prior studies that highlight the effectiveness of gamified educational tools in improving language skills, especially for students with lower proficiency levels (Brown & Payne, 1994). Specifically, the module's integration of the first three stages of vocabulary learning—encountering new words, retaining word forms, and understanding word meanings—proved to be effective. The visual appeal, testing components, and accessibility of the module were also instrumental in achieving positive learning outcomes.

RO2: To identify teachers' perceptions of using 'Word Whiz: Fun with Words' for their remedial pupils.

Thematic analysis of teacher interviews revealed rich insights into the module's reception and implementation. Teacher consistently praised its practicality, ease of use, and alignment with the learning needs of remedial pupils. The findings addressed the research question concerning teacher's perceptions, showing that they viewed the module as effective, accessible, and engaging.

However, teacher also identified certain challenges, such as limited content and motivation barriers for some pupils. These insights align with the hypothesis that while gamified tools can significantly enhance engagement and learning, they require continuous refinement to fully meet the diverse needs of remedial learners.

H_0: There is no significant difference between the pre-test and post-test vocabulary scores of Year 2 remedial pupils after using 'Word Whiz: Fun with Words'.

The research hypothesis was tested to evaluate the effectiveness of Word Whiz: Fun with Words in enhancing vocabulary acquisition among Year 2 remedial pupils. The findings revealed a statistically significant improvement in post-test scores compared to pre-test scores. Therefore, the hypothesis is rejected.

Overall Feedback and Perception

Teacher feedback was collected through semi-structured interviews, providing valuable insights into the module's effectiveness and areas for improvement. Overall, the feedback was positive, with teacher consistently highlighting the module's impact on pupil engagement and vocabulary recall. They shared, "The module made vocabulary learning fun and interesting for the pupils, especially for those who usually find English difficult." The gamified elements, such as point-based rewards and interactive activities, were identified as key motivators that encouraged active participation.

Teacher also emphasised the importance of regular and consistent use of the module, as it helped reinforce vocabulary over time. This observation aligns with the recommendations of Brown and Payne (1994), which stress that repeated exposure and practice are essential for vocabulary mastery. For example, they noted that pupils showed greater confidence in using newly learned words in class discussions after engaging with the module over several weeks.

However, teacher suggested that the module's vocabulary content could be expanded further to include a broader range of words and contexts. This recommendation reflects the multimodal theory (Piaget, 1969), which advocates for diverse methods and materials to support learning. A teacher remarked, "While the current content is effective, adding more topics, especially those related to the Year 2 syllabus, would make it even more impactful."

Suggestions for Improvement

Teacher provided constructive suggestions to enhance the module's effectiveness. One common recommendation was to expand the range of vocabulary topics to ensure broader coverage of the curriculum. Additionally, teacher proposed integrating more interactive and fun activities, such as puzzles or mini-games, to sustain pupil engagement. For instance, one teacher suggested, "Adding more activities like word-matching games or crossword puzzles could make the module even more engaging for the pupils."

Another suggestion focused on the introduction page of the module. Teachers believed that including more detailed instructions would provide clearer guidance for both pupils and parents. This feedback echoed the observations of a senior lecturer who reviewed the module, noting that while the module was accessible, "a more detailed introduction could improve clarity and usability."

Parental Involvement

Parental involvement was identified as a significant factor contributing to the module's success. Teacher observed that pupils whose parents actively participated in vocabulary learning at home showed noticeable improvements in motivation and retention. They shared, "Parents who engaged with the module at home helped their children to reinforce what they had learned in class, and this made a noticeable difference in their performance."

This finding aligns with theories of parental involvement, such as Grolnick and Slowiaczek (1994), which highlight the positive impact of parents' engagement on children's academic outcomes. Furthermore, Lui et al. (2020) found that parental involvement fosters a more supportive learning environment, which benefits remedial pupils significantly. Teacher suggested including specific guidelines for parents on how to use the module effectively at home, such as setting aside dedicated time for vocabulary review and incorporating learning into daily activities.

All in all, the outcomes of the findings portrays the effectiveness of Word Whiz: Fun with Words in improving vocabulary acquisition among Year 2 remedial pupils. The statistically significant results of the t-test, combined with qualitative feedback from teachers, provide robust evidence of the module's value. The thematic analysis further highlighted its strengths, such as its engaging design, visual appeal, and practicality, while also identifying areas for improvement, including content expansion and enhanced motivational strategies.

By addressing the research objectives, questions, and hypothesis, this study affirms the potential of gamified educational tools to bridge vocabulary gaps among remedial pupils. Incorporating teacher feedback into future iterations will ensure that Word Whiz: Fun with Words continues to meet the diverse needs of learners, fostering improved language proficiency and academic success.

CONCLUSIONS

The findings of this study strongly support the effectiveness of the Word Whiz: Fun with Words module in enhancing vocabulary acquisition among Year 2 remedial pupils. The statistical analysis, particularly the significant improvement in post-test vocabulary scores, indicates that the module successfully addresses vocabulary gaps among pupils with lower proficiency levels. The feedback gathered from teacher further emphasises the positive impact of the module on pupil engagement and motivation. By incorporating gamified elements such as interactive activities and point-based rewards, the module engages students actively, making vocabulary learning more enjoyable and effective.

While the study confirms the success of the module in improving vocabulary acquisition, it also highlights areas for further development. Teacher suggested expanding the range of vocabulary topics, incorporating more engaging activities, and improving the clarity of instructions. These recommendations align with existing theories, such as the multimodal theory which advocates for diverse methods to enhance learning, and the importance of parental involvement in supporting vocabulary development.

IMPLICATIONS

This study has several important implications for educational practice, particularly in the context of teaching remedial pupils:

Implication for Teaching Practices

The findings suggest that gamified educational tools, such as Word Whiz: Fun with Words, can be highly

effective in motivating and engaging remedial pupils. By incorporating game-based elements into vocabulary learning, teachers can create a more dynamic and enjoyable learning environment. This approach may be particularly beneficial for students who struggle with traditional teaching methods, as it caters to diverse learning styles and fosters active participation. Teachers are encouraged to continue using and adapting gamified modules in their classrooms, as this strategy can lead to significant improvements in student performance.

Implication for Module Development

Based on teacher feedback, there is a need for further development of the module to address content limitations and enhance its interactivity. Expanding the range of vocabulary topics, adding more interactive activities, and providing clearer instructions could improve its overall effectiveness. Future iterations of the module could benefit from incorporating these suggestions, ensuring that it meets the evolving needs of remedial pupils.

Implication for Parental Involvement

The study portrays the importance of parental involvement in supporting vocabulary acquisition. Teacher reported that when parents actively engaged with the module at home, pupils showed greater motivation and retention. This finding highlights the potential of involving parents in the educational process, suggesting that schools should encourage parents to use educational tools at home to reinforce learning. Schools could consider providing parents with training or resources to help them support their children's vocabulary development outside of the classroom.

Implication for Future Research

This study opens the door for further research on the use of gamified learning tools for remedial pupils. Future studies could explore the long-term effects of using gamified vocabulary modules, investigate how different game elements contribute to learning outcomes, and examine the role of parental involvement in sustaining academic progress. Additionally, research could assess the applicability of such tools for different age groups and in various educational contexts, helping to generalize findings across a wider student population.

In conclusion, Word Whiz: Fun with Words has proven to be an effective tool for improving vocabulary acquisition among Year 2 remedial pupils. Its positive impact on student engagement and learning outcomes suggests that gamified educational tools, when used thoughtfully and in combination with parental involvement, can play a critical role in supporting the academic success of students who face learning challenges. Further development and integration of this approach could have a lasting impact on educational practices in Malaysia and beyond.

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