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Developing a Learning Module to Enhance Primary Students' English Writing Skills: A Needs Analysis

Pembangunan Modul Pembelajaran Untuk Meningkatkan Kemahiran Menulis Bahasa Inggeris Dalam Kalangan Murid Sekolah Rendah: Analisis Keperluan

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Abstract: This article presents a comprehensive needs analysis aimed at identifying the key writing challenges faced by primary school students learning English as a second language (ESL). The study proposes a learning module that integrates computational thinking (CT) to enhance students' writing skills. A diagnostic test involving 149 Year 4 students was conducted as the study sample, with additional data obtained through feedback from eight experienced English teachers. The findings reveal critical weaknesses in vocabulary usage, sentence construction, and grammatical accuracy, based on quantitative and qualitative data analysis. This analysis informs the development of a structured module emphasizing linguistic structure and cognitive problem-solving. By employing the ADDIE framework (Analysis, Design, Development, Implementation, and Evaluation), the study highlights the significant potential of integrating Computational Thinking (CT) to improve writing proficiency in ESL classrooms. Consequently, the development of this module offers more systematic and interactive teaching strategies, assisting teachers in designing activities that support the mastery of writing skills while fostering critical thinking and problem-solving abilities among students.

Keywords: English writing skills, primary education, ADDIE framework, needs analysis, computational thinking

Abstrak: *Artikel ini membentangkan analisis keperluan yang komprehensif bertujuan untuk mengenal pasti cabaran penulisan utama yang dihadapi oleh pelajar sekolah rendah yang belajar Bahasa Inggeris sebagai bahasa kedua (ESL). Kajian ini mencadangkan modul pembelajaran yang mengintegrasikan pemikiran komputasi (CT) untuk meningkatkan kemahiran menulis pelajar. Ujian diagnostik yang telah dilaksanakan melibatkan 149 orang murid Tahun 4 sebagai sampel kajian, dengan data tambahan diperoleh melalui maklum balas daripada lapan guru Bahasa Inggeris yang berpengalaman. Hasil kajian menunjukkan kelemahan kritikal dalam aspek penggunaan kosa kata, pembinaan ayat, dan ketepatan tatabahasa, berdasarkan analisis kuantitatif dan kualitatif data yang diperoleh. Analisis ini memaklumkan pembangunan modul berstruktur yang menekankan struktur bahasa dan penyelesaian masalah kognitif. Dengan menggunakan rangka kerja ADDIE (Analisis, Reka Bentuk, Pembangunan, Pelaksanaan, dan Penilaian), kajian ini menunjukkan potensi yang signifikan untuk mengintegrasikan Pemikiran Komputasional (CT) dalam meningkatkan kebolehan menulis dalam bilik darjah ESL. Hasilnya, pembangunan modul ini dapat menyediakan strategi pengajaran yang lebih sistematik, membantu guru dalam merancang aktiviti yang menyokong penguasaan kemahiran menulis sambil memupuk kemahiran berfikir kritis dan penyelesaian masalah dalam kalangan pelajar.*

Kata Kunci: *Penulisan Bahasa Inggeris, Pendidikan Rendah, ADDIE, Analisis Keperluan, Kemahiran Pemikiran Komputasional*

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INTRODUCTION

Writing in a second language is an essential skill for primary school students, particularly in contexts where English serves as a second language (ESL). Writing proficiency is critical not only for academic success but also for effective communication in a globalized world (Fan, 2024). Unfortunately, many students in rural areas face numerous challenges that impede their writing development, including limited access to quality language instruction and educational resources (Melor et al., 2020).

The purpose of this article is to present a needs analysis that identifies the specific writing challenges faced by primary students and proposes interventions that leverage computational thinking (CT) to improve their performance. Traditional writing instruction has often been limited to methods that emphasize rote learning and memorization (Raimes, 1983; Mina et al., 2024; Abdushukurova, 2024). In contrast, integrating CT offers a novel approach that not only enhances students' linguistic abilities but also cultivates critical thinking and problem-solving skills (Wing, 2006; Wu et al., 2024). This study employs the ADDIE framework to design and develop a module that addresses weaknesses and promotes the effective use of CT in ESL writing tasks.

Problem Statement

Despite the recognized importance of writing in language acquisition, many primary students encounter significant obstacles that hinder their proficiency. Research indicates that students often struggle with fundamental aspects of writing, including grammar, vocabulary, and coherence (Challob et al., 2016; Nurul Jannah et al., 2021). These challenges are particularly pronounced among students from rural backgrounds, where exposure to English may be limited, leading to a lack of confidence and competence in writing tasks (Dunifa, L., 2024)

Additionally, the traditional pedagogical models employed in ESL classrooms may not effectively address the unique needs of these learners (Ying et al., 2021). Consequently, there is a pressing need for a structured approach that not only identifies students' challenges but also incorporates innovative strategies like computational thinking to enhance their writing skills (Sabitzer et al., 2018).

REVIEW OF LITERATURE

The literature review explores ESL writing approaches, challenges students face, the role of computational thinking, and the ADDIE framework for effective educational design.

Writing Approaches in ESL

The landscape of writing pedagogy in ESL classrooms has evolved significantly, influenced by various theoretical frameworks and pedagogical models. Raimes (1983) categorizes these approaches into controlled-to-free writing, grammar-syntax-organization, and process-oriented methods. Silva (1990) expands on this framework by emphasizing the importance of academic writing and traditional rhetoric in ESL contexts. Furthermore, Hyland (2002) advocates for genre-based and reader-oriented approaches that connect writing instruction to real-life contexts, helping learners navigate language use in authentic situations.

Despite the existence of the established pedagogical frameworks, many ESL students still struggle with core writing competencies. Yi (2009) identifies three primary orientations in

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writing instruction: product-oriented, process-oriented, and reader/genre-oriented. While the product-oriented approach emphasizes the final written output, the process-oriented approach focuses on the stages of writing development, such as drafting and revising. The genre-oriented approach, in contrast, considers the social and cultural contexts in which writing occurs (Hyland, 2002).

Challenges in ESL Writing

Many studies have highlighted persistent challenges faced by ESL students in writing. For instance, Challob et al. (2016) found that students often exhibit weaknesses in vocabulary usage, sentence structure, and grammatical accuracy. Similarly, research by Melor et al. (2020) emphasizes the necessity for effective instructional strategies that cater to these weaknesses.

Additionally, the limited integration of technology in writing instruction has been identified as a barrier to students' development (Nurul Jannah et al., 2021). While web-based learning platforms have shown promise in enhancing writing skills, there remains a gap in utilizing CT to further engage students cognitively in writing tasks (Csizmadia et al., 2015).

Computational Thinking in Language Learning

Computational thinking (CT) is a problem-solving process that involves skills such as decomposition, pattern recognition, abstraction, and algorithmic thinking (Wing, 2006). Recent research has begun to explore the role of CT in various educational contexts, including language learning (Sabitzer et al., 2018; Tofel-Grehl & Richardson, 2018). The integration of CT into writing instruction can help students recognize patterns in language use, break down complex sentences, and organize their ideas effectively (Sabitzer et al., 2018).

While studies such as those by Csizmadia et al. (2015) and Tofel-Grehl and Richardson (2018) have underscored the benefits of CT in enhancing critical thinking and problem-solving skills, the application of CT in ESL writing instruction remains underexplored. This article aims to bridge this gap by demonstrating how CT can be integrated into writing instruction through a structured module that addresses specific writing challenges.

The ADDIE Framework in Educational Design

The ADDIE model is widely used for instructional design and offers a structured approach to developing educational modules (Richey & Klein, 2007; Saedah et al., 2022). This model guides educators through the stages of analysis, design, development, implementation, and evaluation, ensuring that educational interventions are systematic and effective (Kurt, 2018).

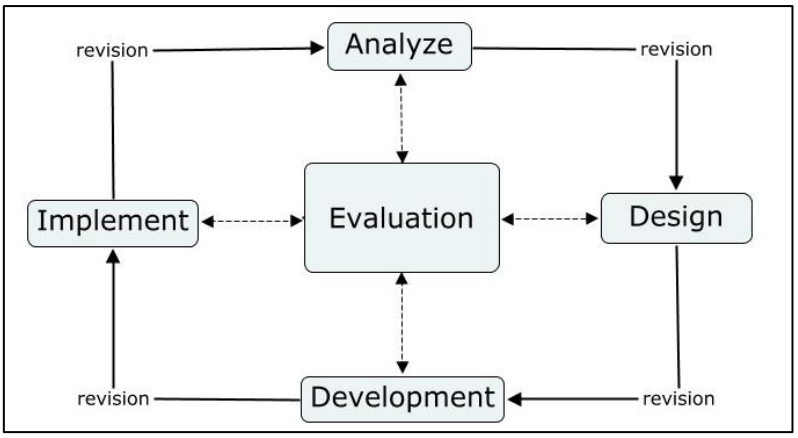

Figure 1. ADDIE Framework (Kurt, 2018)

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The application of the ADDIE framework in this study helps ensure that the developed module addresses specific learning needs, incorporates effective pedagogical strategies, and is evaluated rigorously for its effectiveness in improving writing skills.

METHODOLOGY

Research Design

This study utilized a mixed-methods approach to conduct a comprehensive needs analysis of primary students' writing abilities. The research design involved a diagnostic test based on the Academic Session Final Test (UASA) format (Part 6), where students were required to write an email on a familiar topic, with a total score of 10 marks. Additionally, feedback from eight experienced ESL teachers was collected to gain insights into the writing challenges students faced. The ADDIE framework (Richey & Klein, 2007; Kurt, 2018; Saedah et al., 2020) guided the development of the intervention module.

Participants

The participants included 149 ten years old pupils from six rural primary schools. The diagnostic test was administered to assess their writing abilities, with teachers participating due to their extensive experience (over 10 years) in teaching ESL in primary schools. Their familiarity with the challenges of teaching in rural settings provided valuable insights into the students' needs.

Data Collection Instruments

The study involved a diagnostic writing test, assessing students' writing performance in terms of grammar, vocabulary, coherence, and sentence construction. Following the Academic Session Final Test (UASA) format, which is commonly employed in Malaysian schools for English language assessments, this diagnostic test provided quantitative data for analysis, and the evaluation process was carefully structured to ensure accuracy and reliability. Eight experts, all experienced in marking exam papers, were involved in the assessment. Each student's writing was initially scored by two raters independently. To maintain objectivity, the final score was determined by an expert who reviewed the transcripts and pupils' answer sheets, considering the scores provided by the two raters. This approach ensured that the evaluation was consistent and minimized bias, following best practices in educational assessment. Additionally, semi-structured interviews with experienced teachers facilitated the collection of qualitative data, revealing specific challenges

Data Analysis

Quantitative data from the diagnostic test were analyzed using descriptive statistics, while qualitative data from teacher interviews underwent thematic analysis. The findings from both sources informed the development of the learning module.

RESULTS AND DISCUSSION

Diagnostic Test Result

Based on Table 1, the data presents the results from the diagnostic test revealed that students' average writing score was 3.71 out of 10, indicating a substantial need for improvement in their writing skills. A significant percentage (63.7%) of students scored within the lower bands (0–4), suggesting considerable difficulties in essential writing components such as sentence

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construction and vocabulary usage. Only 14.76% of students achieved scores between 7 and 10, reflecting advanced proficiency (Challob et al., 2016).

Table 1. Diagnostic Test Result

Score Range	No. of students	Percentage (%)	Band category
0-2	40	26.8	Low
3-4	55	36.9	
5-6	32	21.5	Middle
7-8	17	11.4	
9-10	5	3.36	High
Total	**149**	**100**	

The diagnostic test highlighted grammar as the most significant area of struggle, followed by coherence and vocabulary. These findings align with previous research, confirming that ESL students often face similar challenges in writing (Datchuk & Kubina, 2017; Nurul Jannah et al., 2021).

Teachers' Feedback

The analysis of student work, supported by feedback from eight experienced English teachers, identified several core writing challenges. These included limited vocabulary, difficulties in sentence construction, frequent grammatical errors, spelling mistakes, and challenges in organizing ideas coherently. These challenges are consistent with findings from prior research, which emphasize similar difficulties faced by ESL learners (Marzaizah et al., 2021; Soussen, 2024).

To address these issues, teachers suggested several interventions:

1. **Increased Exposure to Reading:** Students should engage with a variety of texts to expand their vocabulary and understanding of sentence structures.
2. **Enhanced Writing Practice:** Regular practice sessions focusing on different writing aspects can help students develop confidence and competence.
3. **Vocabulary Instruction in Context:** Teaching vocabulary within relevant contexts aids retention and appropriate usage
4. **Focus on Sentence Construction:** Reinforcing the basics of sentence construction was seen as essential to improving overall writing quality.
5. **Use of Visual Aids and Technology:** Incorporating visual tools and technology can make the learning process more engaging and effective.
6. **Integration of Computational Thinking:** Teachers recommended incorporating computational thinking skills to help students organize their ideas and approach writing tasks systematically.

CONCLUSION

This study highlights the potential benefits of integrating computational thinking into ESL writing instruction to enhance primary students' writing skills. The ADDIE framework provided a systematic approach to developing the learning module, ensuring that it was tailored to address the specific challenges identified through the needs analysis (Richey & Klein, 2007).

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While the study did not focus exclusively on grammar errors or coherence, it indicates that a structured instructional design can facilitate targeted interventions in writing education (Sidek & Jamaludin, 2005).

Future research should explore the long-term effects of integrating computational thinking in writing instruction and its broader applicability across various educational contexts. As educators strive to enhance writing proficiency, adopting innovative approaches, including computational thinking, may develop students' critical thinking and problem-solving skills essential in today's interdisciplinary landscape (Tofel-Grehl & Richardson, 2018; Wing, 2006).

REFERENCES

Abdushukurova, U. (2024). Decoding Language: Innovative Approaches to Teaching Grammar and Vocabulary. *Theory and Analytical Aspects of Recent Research*, *2*(25), 329-345.

Baker, D. L., Santoro, L., Biancarosa, G., Baker, S. K., Fien, H., & Otterstedt, J. (2020). Effects of a read aloud intervention on first grade student vocabulary, listening comprehension, and language proficiency. *Reading and Writing*, *33*, 2697-2724.

Challob, A. I., Bakar, Z. A., & Latif, H. (2016). Enhancing writing skills through blogs in an ESL classroom. *Asian Social Science, 12*(7), 231-240. https://doi.org/10.5539/ass.v12n7p231

Csizmadia, A., Curzon, P., Dorling, M., Humphreys, S., Ng, T., Selby, C., & Woollard, J. (2015). *Computational thinking: A guide for teachers*. Computing At School. Retrieved from https://community.computingatschool.org.uk/resources/2324

Datchuk, S. M., & Kubina, R. M. Jr. (2017). A writing intervention to teach simple sentences and descriptive paragraphs to adolescents with writing difficulties. *Education and Treatment of Children*, 40(2), 205–227.

Dunifa, L. (2024). The roots of demotivation in studying English: Sociocultural values among students in a rural area. *Studies in English Language and Education*, *11*(1), 304-320.

Fan, Y. S. (2024). Facilitating content knowledge, language proficiency, and academic competence through digital storytelling: Performance and perceptions of first-year medical-related majors. *Journal of Research on Technology in Education*, *56*(2), 129-150.

Hyland, K. (2002). Genre: Language,context, and literacy. *Annual Review of Applied Linguistics, 22*, 113-135. https://doi.org/10.1017/S0267190502000065

Nur Farhana Mohd Jais, Suaibatul Aslamiah Ishak & Melor Md Yunus (2022). Developing the self-learning interactive module using ADDIE model for year 5 primary school students. *International Journal of Academic Research in Progressive Education and Development*, *11*(1), 615-630.

Kurt, S. (2018)**.** *ADDIE model: Instructional design*. Educational Technology. https://educationaltechnology.net/the-addie-model-instructional-design/#addie-stages

Marzaizah Che Awang, Nor Hazwani Munirah Lateh, Najihah Mahmud, & Nazatul Syima Mohd Nasir. (2021). Exploring young ESL learners' narrative writing performance: Implications for teachers and learners. *International Journal of Language Education and Applied Linguistics (IJLEAL)*, 11(1), 37–47. https://doi.org/10.15282/ijleal.v11.6481

Mina, K. M., & Oraiz, C. (2024). Unveiling the Reasons Behind Teachers' Embrace of Traditional Teaching Methods. *Psychology and Education: A Multidisciplinary Journal*, *20*(8), 1004-1023.

Nunan, D. (1999). *Second language teaching and learning*. Heinle & Heinle.

2024. Vol 4. No 4. pg 36-42. e-ISSN: 2805-4695

Nurul Jannah Ahmad Ghulamuddin, Melor Md.Yunus, & Nor Hasniza Ibrahim. (2021). Improving ESL writing through web-based learning. *International Journal of Learning, Teaching, and Educational Research, 20*(4), 129-144. https://doi.org/10.26803/ijlter.20.4.9

Raimes, A. (1983). *Techniques in teaching writing*. Oxford University Press.

Richey, R. C., & Klein, J. D. (2007). *Design and development research: Methods, strategies, and issues*. Mahwah, NJ: Lawrence Erlbaum Associates.

Sabitzer, B., Demarle-Meusel, H., & Jarnig, M. (2018). Computational thinking through modeling in language lessons. *IEEE Global Engineering Education Conference, EDUCON 2018*, 1913-1919. https://doi.org/10.1109/EDUCON.2018.8363469

Saedah Siraj, Muhammad Ridhuan Tony Lim Abdullah, & R. M. R. (2020). *Pendekatan Penyelidikan Reka Bentuk dan Pembangunan: Aplikasi kepada Penyelidikan Pendidikan*. Penerbit UniversitiPendidikan Sultan Idris.

Sidek, H. M., & Jamaludin, Z. (2005). Instructional design practices among ESL teachers in Malaysia. *Malaysian Journal of ELT Research, 1*(1), 1-19.

Silva, T. (1990). Second language composition instruction: Developments, issues, and directions in ESL. In B.Kroll (Ed.), *Second language writing: Research insights for the classroom* (pp. 11–23). Cambridge University Press.

Soussen, H. (2024). *Challenges in dual language learning facing young learners in vocabulary, writing, and pronunciation* (Master's dissertation). University of Biskra, Algeria.

Tofel-Grehl, C., & Richardson, J. C.(2018). Computational thinking and writing: A narrative inquiry into their convergences in STEM and beyond. *Educational Researcher, 47*(5), 271-280. https://doi.org/10.3102/0013189X18779572

Tribble, C. (1996). *Writing*. Oxford University Press.

Wing, J. M. (2006). Computational thinking. *Communications of the ACM, 49*(3), 33–35. https://doi.org/10.1145/1118178.1118215

Wu, T. T., Silitonga, L. M., & Murti, A. T. (2024). Enhancing English Writing and Higher-Order Thinking Skills Through Computational Thinking. *Computers & Education*, *213*, 105012.

Yi, J.-Y. (2009). Defining writing ability for classroom writing assessment in high schools. *Pan-Pacific Association of Applied Linguistics, 13*(1), 53-69. Retrieved from

Ying, Y. H., Siang, W. E. W., & Mohamad, M. (2021). The challenges of learning English skills and the integration of social media and video conferencing tools to help ESL learners coping with the challenges during COVID-19 pandemic: A literature review. *Creative Education*, *12*(7), 1503-1516.