



# The Impact of Latin Alphabet Instruction on Thai Vocabulary Writing Skills and Science Understanding of Thai-Malay Junior High School Students (Study Case at Padung Mat School Narathiwat Thailand)

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**Abstract:** This study aims to analyze the influence of Latin alphabet usage on the vocabulary writing skills and science understanding of Thai Malay among Mattaeom 1 students at Ban Padungmat School, Thailand. A qualitative descriptive method was employed using participatory observation and documentation techniques on 25 students. The findings reveal that students face significant challenges in writing vocabulary due to differences in graphemic and phonological systems between the Latin alphabet and Thai script. Three dominant types of errors were identified: graphemic errors (72%), phonological errors (80%), and mixed usage of Latin and Thai characters (60%). These errors are influenced by negative transfer from the mother tongue and low adaptation to the Latin script. The study emphasizes the need for a contextual and phonetic-based learning approach in teaching the Latin alphabet to bilingual students. It recommends more intensive phonological and graphemic training to enhance vocabulary writing accuracy in Thai Malay.

**Keywords:** English alphabet; Science understanding; Vocabulary; Writing skill.

## Introduction

Children's education in Thailand plays a significant role in shaping the country's generations (Melinda et al., 2024). Along with technological developments, the Thai education system shows significant digital integration to improve the quality of learning, including in remote areas. However, the gap between urban and rural areas is still a challenge that affects the equality of education quality (Wood, 2023). One of the real problems found in rural areas is the low writing ability of students,

especially in mastering Thai Malay vocabulary using the Latin alphabet (Amelia et al., 2024). The element of an alphabet table is dependent on the phonetics of a language; for close languages, the alphabets are similar. For example, the Latin alphabets of Scandinavian languages contain three additional letters with diacritic signs; each pair of letters from the two groups functions the same albeit they are not the same in written form in Swedish (ä, å, ö), Danish, and Norwegian (æ, å, ø) languages (Zhang & Zhang, 2022).

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Ban Padungmat School, located in an area dominated by Thai Malay speakers and Thai Alphabeth as the mother tongue, faces challenges in learning the written language. Based on initial observations, students at Mattaeom 1 level (corresponding to seventh-grade secondary school) generally have quite good reading skills, but they are still relatively low, especially when writing vocabulary using the Latin alphabet. This shows the ability between receptive (reading) and productive (writing) skills of the students are not equal. (Nuraeningsih, 2022) stated that the language skills are divided into four; listening, speaking, reading, and writing. Those four skills are then classified into productive and receptive skills. Productive skills consist of speaking and writing, while receptive skills include reading and listening (Sreena & Ilankumaran, 2018). The ability to comprehend a language is known as receptive ability.

This difficulty is thought to arise due to fundamental differences between the Thai script writing system and the Latin alphabet. Letters in the Latin alphabet that look similar, such as "b" and "d", or "p" and "q", often confuse the early stages of learning. Solichah et al. (2022); Wasik & Seefeldt (2019) explain that children in the early stages of learning often have difficulty distinguishing letters that have similar visual forms. This can be influenced by local adaptations in the pronunciation of Malay words written in Thai scripts, such as "kata" which is read as "kato" or "baca" which is pronounced as "baco", which often triggers misinterpretation in written communication.

According to Cialdini et al. (2015), influence is a process in which individuals or groups can influence the behavior and decisions of others through persuasive techniques or subtle social pressure. In the context of learning, the influence of the alphabet on students' writing ability can be understood as how the structure of the Latin alphabet shapes or even hinders the written expression abilities of students who are accustomed to non-Latin scripts (Luoma, 2019). Despite these interpretative difficulties it is nonetheless possible to further our understanding of whether and how alphabet and expertise affect visual feature processing during letter recognition. Evidence that these factors do affect letter feature processing would, at a general level, provide further evidence of the dynamic nature of the visual system and, at a specific level, provide insight into some of the particular characteristics of visual letter processing and learning (Wiley et al., 2016). This is in line with the views of Kahneman et al. (2021), that influence is not always explicit, but can work unconsciously through psychological and linguistic factors.

The Latin alphabet itself is a writing system that was removed from the Roman script, consisting of 26 letters with a division of vowels and consonants (Cruttenden, 2021). This system is the basis for many modern languages, including Indonesian and Malay. However, the phonetic differences between the pronunciation of the Latin alphabet in English, Indonesian, and Malay—such as "A" being read as "ei" in English or "a" in Indonesian—add complexity to students learning to write in Malay with this alphabet (Harris et al., 2017). Writing is a complex productive skill that does not appear automatically. According to Tarigan (1986), this skill needs to be practiced regularly because it involves high-level thinking and creativity. This is supported by Bakry & Alsamadani (2019) who state that writing can improve critical and creative thinking skills. Writing is a complex productive skill that does not appear automatically. According to Tarigan (2008), this skill needs to be practiced regularly because it involves high-level thinking and creativity (Purwanto et al., 2023).

Vocabulary plays an important role in shaping the meaning of language. Cohen (2012) defines vocabulary as an element of language that contains information on the meaning and use of words. The more the students' vocabulary, the better their ability to express ideas in writing. Therefore, it is important to examine the effect of the Latin alphabet on the vocabulary writing skills of Mattaeom 1 students at Ban Padungmat School in the context of Thai Malay. This study is expected to support the development of learning strategies that are more adaptive to students' language backgrounds.

## Method

The research method used in this study is descriptive qualitative which aims to deeply understand the phenomena that occur in a natural context. In this approach, the researcher acts as the main instrument whose job is to collect data, analyze information, and draw conclusions from findings in the field (Miles & Huberman, 2009; Sugiyono, 2021). This study was conducted at Ban Padungmat Thailand school, Matakoh village, Ca Naea area for 2 months, from November 2024 until January 2025.

As the subjects were 25 students of class Mattaeom 1, to describe the effect of alphabet use on the ability to write vocabulary in the Thai Malay language. Furthermore, the data was collected by using two main techniques; participative and documentation observation (Sugiyono, 2021). Participative observation was done by direct involvement of the researcher in the learning process in terms of observing and noting the students' mistakes in writing the Malay Thai Vocabulary with the Latin alphabet. Moreover, documentation

techniques were used to collect the written data that was taken from the students' notebooks, essays, daily tasks, and other relevant documents.

Analysis data used an interactive model that covered data reduction, display, and conclusion simultaneously while collecting the data (Miles & Huberman, 2009). Reduction was done by selecting the vocabulary and then displaying it in a table or narration to describe the relation among the data, then last this process ended with the verification and validation.

## Result and Discussion

This study was conducted on 25 students of class Mattaeom 1 at Ban Padungmat School using a qualitative descriptive method. Data were obtained through direct observation, interviews with teachers, and analysis of student writing documents. The focus of this study was to identify the influence of the Latin alphabet on the ability to write Thai Malay vocabulary.

**Table 1.** Result of data analysis

Error Type	Number of Students	Percentage %
Graphemic Errors	18	72
Phonological Errors	20	80
A mixture of Latin and Thai Script	15	60

From the table, it can be concluded that phonological errors are the most dominant errors (80%), followed by graphemic errors (72%) and a mixture of Latin and Thai scripts (60%).

### Observation Result

Observation results show significant challenges for students in writing using the Latin alphabet. Some of the main findings include: Graphemic Errors: Students often confuse visually similar letters, such as 'p' with 'q' and 'b' with 'd'. This is due to the lack of internalization of Latin graphemes due to the dominance of Thai script; Phonological Errors: The interference of the mother tongue causes students to often omit vowels or replace them, such as in the word 'belajar' which is written as 'belaja' and 'air' becomes 'ai'. This is consistent with Weinreich (2010) view, which states that "differences in sound systems can hinder second language learning"; and Inconsistent Adaptation: Students often mix the Latin alphabet with Thai script in one word, indicating an imperfect graphemic transition.

### Data Analysis

Dominant phonological errors indicate negative transfer from the mother tongue to the target language, as explained by (Odlin, 1989), that "negative transfer can

occur when phonological differences between the native language and the second language affect language production". In addition, graphemic errors occur due to low graphemic adaptation in students (Crystal, 2008). This study was conducted on 25 students of class Mattaeom 1 at Ban Padungmat School using a qualitative descriptive method. Data were obtained through direct observation, interviews with teachers, and analysis of student writing documents. The focus of this study was to identify the influence of the Latin alphabet on the ability to write Thai Malay vocabulary.

### Daily Documentation Result

During the research process, daily documentation was conducted to record the development of students' writing skills in using the Latin alphabet. Documentation was conducted during two meetings, with the following details: First Meeting: Students were introduced to the Latin alphabet through basic writing activities such as letter recognition and simple words. Most students still showed confusion in writing letters that had visual similarities, such as 'p' with 'q' and 'b' with 'd'. In addition, there were phonological errors such as the replacement of vowels in the word 'belajar' with 'belaja', which indicated phonological interference from Thai; Second Meeting: Students were invited to write more complex words in simple sentences. The main challenge in this meeting was the error in combining the Latin alphabet and Thai script in one word, such as in the word "Sekolah" which was written as "sekolah". In addition, in the sentence "Aku pergi ke sekolah", variations of writing were found such as "Aku pergi ke sekola". This indicates imperfect graphemic adaptation and the continued influence of Thai phonology.

During the research process, daily documentation was conducted to record the development of students' writing skills in using the Latin alphabet. Documentation was carried out over four weeks, with the following details: Week One: Students are introduced to the Latin alphabet through basic writing activities such as letter recognition and simple words. Most students still show confusion in writing letters that have visual similarities, such as 'p' with 'q' and 'b' with 'd'; Week Two: Students begin to be invited to write more complex words. The challenge that arises is the occurrence of phonological errors, such as the replacement of vowels in the word 'belajar' with 'belaja'. This indicates phonological interference from Thai; Week Three: Focus on combining words in simple sentences. A common error is a mixture of the Latin alphabet and Thai characters in one word, such as the word "sekolah" which is written as "sekolah". Students still have difficulty in consistent use of the alphabet; and Week Four: Full-sentence writing exercises are carried

out with everyday topics. Improvements are seen in some students in distinguishing similar letters, but phonological interference persists. In the sentence "I go to school", variations are found such as "Aku perqi ke sekola".

### *Observation Findings*

The results of the observations showed significant challenges for students in writing using the Latin alphabet. Some of the main findings include: Graphemic Errors: Students often confuse visually similar letters, such as 'p' with 'q' and 'b' with 'd'. This is due to the lack of internalization of Latin graphemes due to the dominance of Thai script; Phonological Errors: The interference of the mother tongue causes students to often omit vowels or replace them, such as in the word 'belajar' which is written as 'belaja', and 'air' becomes 'ai'. This is consistent with Weinreich (2010), which states that "differences in sound systems can hinder second language learning"; Inconsistent Adaptation: Students often mix the Latin alphabet with Thai script in one word, indicating an imperfect graphemic transition.

### *Analysis of Student Difficulties*

Letter Visualization: Difficulty distinguishing similar letters such as 'p' and 'q' or 'b' and 'd' indicates extrinsic cognitive load. This is in line with Sweller (2023), who stated that "extrinsic cognitive load occurs when teaching methods do not adequately consider graphemic differences". Unstable Phonology: Final vowel substitutions reflect negative transfer from Thai phonology to Thai Malay. According to Odlin (1989), "negative transfer occurs when the phonological features of the native language interfere with the learning of the target language".

### *Concrete Examples of Observation Data*

In the word "Pergi", some students write it as "perqi" or "perbi". • In the sentence "Aku belajar di sekolah", variations such as "Aku belaja di sekko" were found.

### *Discussion*

According to Sweller (2023) Cognitive Load theory, the differences between Thai and Latin alphabets increase the intrinsic cognitive load on students because "the Latin alphabet requires the introduction of new letter forms and different phoneme pronunciations". Extrinsic cognitive load also occurs when "teaching methods do not adequately consider graphemic differences". Language Transfer Theory Odlin (2022) supports this finding by stating that "phonological differences between the native and target languages can result in negative transfer". Vowel errors that appear in students' writing are evidence of phonological

interference between the sound systems of Thai and Latin alphabets. In addition, the theory of graphemic adaptation Crystal (2008) states that "moving from one graphemic system to another requires time and special training".

### *Research Implications*

The implication of these findings is the importance of designing more adaptive learning, taking into account gradual alphabet transitions. Introduction to the Latin alphabet should start with the letters that contrast most with Thai characters so that students can distinguish them more easily. Phonological training is also needed so that students can associate Latin letters with the correct sounds.

The results of the observation show that the majority of Mattaeom 1 students at Ban Padungmat School have difficulty in distinguishing visually similar Latin letters, such as 'p' and 'q' and 'b' and 'd'. This difficulty reflects the cognitive load due to the graphemic differences between the Latin alphabet and Thai script. In addition, the dominant phonological errors indicate phonological interference from Thai to Thai Malay (Odlin, 2022).

Errors in mixing the Latin alphabet and Thai script indicate imperfections in understanding graphemic transitions. This is consistent with (Crystal, 2003), that changing from one graphemic system to another requires time and special training.

### **Conclusion**

The conclusion of this research that the use of the Latin alphabet in learning Thai Malay still faces significant obstacles. The main challenges include difficulty in distinguishing visually similar letters and phonological errors due to Thai language interference. In addition, the less-than-optimal graphemic transition process causes a mixture of the Latin alphabet and Thai script in students' writing. Therefore, a more adaptive learning method is needed, especially in graphemic and phonological training, so that students can recognize and use the Latin alphabet correctly and consistently.

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**Conflicts of Interest**

The authors declare no conflict of interest.

**References**

- Amelia, G. F., Mutia, & Kemal, I. (2024). Pelafalan Kosa Kata Bahasa Indonesia Bagi Penutur Bahasa Asing: (Pembelajar Thailand) Melalui Penerapan Direct Method. *Lingua Franca: Jurnal Bahasa, Sastra, Dan Pengajarannya*, 8(1). Retrieved from <https://journal.um-surabaya.ac.id/lingua/article/view/21310>
- Bakry, M., & Alsamadani, H. A. (2019). Critical multiliterate model with RADEC model on the ability to write explanatory text. *Jurnal Pendidikan*, 11(1), 45–55. <https://doi.org/10.21009/jpd.v11i1.15295>
- Cialdini, R. B., Martin, S. J., & Goldstein, N. J. (2015). Small behavioral science--informed changes can produce large policy-relevant effects. *Behavioral Science & Policy*, 1(1), 21–27. <https://doi.org/10.1177/237946151500100104>
- Cohen, M. T. (2012). The importance of vocabulary for science learning. *Kappa Delta Pi Record*, 48(2), 72–77. <https://doi.org/10.1080/00228958.2012.680372>
- Cruttenden, A. (2021). *Writing systems and phonetics*. Routledge. <https://doi.org/10.4324/9781003047155>
- Crystal, D. (2003). *Language and the Internet*. Cambridge University Press.
- Crystal, D. (2008). *A Dictionary of Linguistics and Phonetics* (6th ed.). Wiley-Blackwell.
- Harris, K. I., Kinley, H. L., & Cook, A. (2017). Promoting alphabet knowledge using peer-mediated intervention: A dynamic duo for early literacy development. *Young Exceptional Children*, 20(2), 55–68. <https://doi.org/10.1177/1096250615586027>
- Kahneman, D., Sibony, O., & Sunstein, C. R. (2021). *Noise: A flaw in human judgment*. Little, Brown Spark.
- Luoma, A. (2019). *Use of the Latin script in non-Latin script languages*. Helsingin yliopisto.
- Melinda, F. A. F., Kemal, M., & Isthifa. (2024). Peluang dan Tantangan Belajar Bahasa Indonesia Sebagai Bahasa Asing: Studi Kasus Pelajar Thailand. *Tarbiatuna: Journal of Islamic Education*, 4(1). <https://doi.org/10.47467/tarbiatuna.v4i1.6386>
- Miles, M. B., & Huberman, A. M. (2009). *Qualitative Data Analysis, atau Analisis Data Kualitatif, terjemahan Tjetjep Rohendi*. Jakarta: Univ. Indonesia Press.
- Odlin, T. (1989). *Language Transfer: Cross-Linguistic Influence in Language Learning*. Cambridge University Press.
- Odlin, T. (2022). *Explorations of Language Transfer*. Multilingual Matters.
- Purwanto, M. B., Hartono, R., & Wahyuni, S. (2023). Essential skills challenges for the 21st century graduates: Creating a generation of high-level competence in the industrial revolution 4.0 era. *Asian Journal of Applied Education (AJAE)*, 2(3), 279–292. Retrieved from <https://pdfs.semanticscholar.org/834b/02fb27857b7c5e8dfe83836a0ed47ff737ea.pdf>
- Solichah, N., Solehah, H. Y., & Hikam, R. (2022). Persepsi serta peran orang tua dan guru terhadap pentingnya stimulasi literasi pada anak usia dini. *Obsesi: Jurnal Pendidikan Anak Usia Dini*, 6(5), 3931–3943. Retrieved from <https://repository.uin-malang.ac.id/10342/2/10342.pdf>
- Sreena, S., & Ilankumaran, M. (2018). Developing productive skills through receptive skills--a cognitive approach. *International Journal of Engineering & Technology*, 7(4.36), 669–673. Retrieved from <https://shorturl.asia/UAfSl>
- Sugiyono. (2021). *Metode Penelitian Pendidikan (Kuantitatif, Kualitatif, Kombinasi, R&D, dan Penelitian Pendidikan)*. Bandung: Alfabeta.
- Sweller, J. (2023). Discussion of The Special Issue on Cognitive Load Theory. *British Journal of Educational Psychology*, 93(2), 402–410. <https://doi.org/10.1111/bjep.12606>
- Tarigan, H. G. (1986). *Menulis sebagai suatu keterampilan berbahasa*. Bandung: Angkasa.
- Tarigan, H. G. (2008). *Membaca sebagai Suatu Keterampilan Berbahasa*. Bandung: Angkasa.
- Wasik, B. A., & Seefeldt, C. (2019). *Pendidikan anak usia dini menyiapkan anak usia tiga, empat dan lima tahun masuk sekolah*. Jakarta: Indeks.
- Weinreich, U. (2010). *Languages in Contact: Findings and Problems*. Walter de Gruyter.
- Wiley, R. W., Wilson, C., & Rapp, B. (2016). The effects of alphabet and expertise on letter perception. *Journal of Experimental Psychology: Human Perception and Performance*, 42(8), 1186. <https://doi.org/10.1037/xhp0000213>
- Wood, R. M. (2023). A review of education differences in urban and rural areas. *International Research Journal of Educational Research*, 14(2), 1–3. <https://doi.org/10.14303/2141-5161.2023.254>
- Zhang, X., & Zhang, R. (2022). Evolution of ancient alphabet to modern Greek, Latin and Cyrillic alphabets and transcription between them. *South Florida Journal of Development*, 3(3), 3210–3217. <https://doi.org/10.46932/sfjdv3n3-013>