

Learning while Walking the Streets of Rayong: Combining Linguistic Landscape and Language Awareness through Action Research with Children

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Article information	Abstract
Article history: Received: 16 Jul 2023 Accepted: 25 Aug 2024 Available online: 3 Sep 2024	<i>This paper presents the outcomes of an action research study that implemented a linguistic landscape (LL) unit as an English language learning activity at the secondary school level in Rayong, Thailand. The theoretical framework employed in this study draws upon Lefebvre's (1991) conceptualization of space, adapted for pedagogical purposes as explained by Malinowski (2015). The study places particular emphasis on cultivating students' awareness of the LL in their neighborhood throughout a six-week instructional session. The instructional activities were designed to investigate the potential of LL in enhancing English language acquisition and promoting cultural sensitivity. Data collection involved the utilization of questionnaires and on-site observations. Two main conclusions may be drawn from the action research project's findings. First of all, the students showed signs of a greater sense of familiarity with their neighborhood, which suggests that they are more aware of the LL around them and that they understand LL to be a useful instrument for language learning. Secondly, the students identified a discrepancy between the LL of Rayong and the city's vibrant economic activity as well as its diverse ethnic and linguistic composition, suggesting that the existing LL does not adequately reflect these dynamic facets of the city.</i>
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INTRODUCTION

English has attained the status of a global language, surpassing its traditional use in inner-circle and outer-circle contexts, as theorized by Kachru (1990), and extending its influence to expanding-circle nations, such as Thailand. This evolution signifies that international English is not confined to its native speakers but has become a subject of study and a means of communication worldwide. Consequently, there arises a pressing need to explore avenues through which authentic English usage can be introduced, taught, and encouraged in settings that extend beyond the boundaries of the classroom, particularly for the benefit of our students.

As evidenced in Niedt and Seals' (2020) volume, detailing how people's

“naturalistic, everyday encounters [...] themselves can be a form of education, often in non-traditional educational settings” (p. 2)

A non-formal setting form of learning might be more interesting and practical for students. While this offers opportunity for them to expose global real-life language use, they also discover their own neighborhood through their observation that they might not be able to realize before. Furthermore, according to Bever (2012), texts that are multimodal and multilingual enhance comprehension of the culturally symbolic, informative, and communicative elements of texts and solidify relationships between students, the community, and everyday setting.

The incorporation of Linguistic Landscape study into the second or foreign language curriculum has gained considerable attention from scholars, educators, and administrators on a global scale (Sayer, 2010; Shohamy et al., 2010; Rowland, 2013). Cenoz and Gorter (2008) explained numerous ways in which LL investigation can enhance second language learning, encompassing the cultivation of pragmatic competence, multimodal literacy skills, an appreciation of language's symbolic and affective dimensions, as well as the incidental language learning derived from printed materials. Similarly, Dressler (2015) in an examination of a German-English bilingual program in Western Canada, highlights the impact of the school's LL on the promotion or hindrance of bilingualism. The result suggested the school signs did not encourage the use of target languages, German and English. As a result, the questions of common practices and arguments that cause this limitation remained. In another Canadian study, furthermore, Dagenais et al. (2009) regard multilingual cities as valuable subjects for students' scrutiny, asserting that LL study serves as a research tool that stimulates children's observations of texts, multilingualism, and language diversity, thereby drawing attention to the non-neutral nature of written communication. The longitudinal study revealed positive results in higher awareness of language diversity between the students from the two cities, Montreal and Vancouver where English is not only native language. The study had been conducted for three years with grade 5 students. The participants were asked to observe their LL in school and neighborhood. They were closely guided by teachers who were willing to participate in the study. In another context, Sayer (2009) describes a student-led LL research project conducted in Oaxaca, Mexico with an English as a Foreign Language (EFL) class, aiming to explore the cross-cultural and intercultural functions of English within that community. Sayer (2009) argues that the project achieved two primary objectives: connecting the content of the EFL class with the external world and fostering creative and analytical thinking about language use in society. Adopting a critical discourse perspective, Hewitt-Bradshaw (2014) examines artifacts within the LL of the Caribbean at three levels—text, discursive practices, and social practices—and suggests approaches to utilizing public signage as a resource for language learning and literacy development, fostering critical language awareness and communicative competence.

In the Asian context, Chern and Dooley (2014) present an instructional activity termed an “English literacy walk” (p. 113) that capitalizes on the abundant presence of English in the public spaces of Taipei. This pedagogical approach utilizes the “four resources model” of literacy practice, encompassing code-breaking (mastery of the alphabetic code of written English), text participation (drawing on background knowledge to derive meaning from texts), text use (engaging in social activities in which texts play a central role), and text analysis

(critically examining how texts shape readers' perspectives). The authors contend that this model enables "a systematic consideration of the reading practices essential in today's text-saturated twenty-first century societies" (p. 122).

Amidst the multitude of claims regarding the benefits of incorporating LL analysis into the second/foreign language curriculum, Rowland (2013) presents findings from an action research project involving 27 second-year university students in Japan. The purpose of this study was to examine the extent to which LL study facilitated the development of several skills, including critical literacy skills, pragmatic competence, incidental language learning, multimodal literacy skills, multi-competence, and sensitivity to connotational aspects of language. The students were tasked with collecting photographs of signs containing English, categorizing them, and composing a report based on their findings.

A qualitative analysis of students' remarks leads Rowland to conclude,

"Overall, the six claims summarized from the literature were corroborated to different degrees in the students' reports. [...] The task of photographing and categorizing signs concentrated the students' attention on the semantic, syntactical, pragmatic and symbolic features of the English language as it is used by Japanese people in Japanese society. Furthermore, the students identified multimodal displays of communication on the signs, noted the absence of languages other than Japanese and English described various social function of English on signs and exploited their linguistic ability in both Japanese and English to arrive at some nuanced conclusions about multilingual signs. Finally, ... the LL available to EFL learners contains more instances of authentic, contextualized multilingual input, and this constitutes its real value to language learners." (Rowland, 2013, pp. 503-504)

Like Rowland's study, this paper aims to investigate an instructional unit that integrates the exploration of LL within the foreign language classroom. As students gather the signs and observe their areas, they would have an opportunity to reflect on Thai and other languages used in their own culture. In so doing, LL could be a catalyst for enhancing cultural awareness and facilitating language acquisition. The research is conducted in the provincial capital of Rayong, situated on the eastern coast of Thailand and recognized as an industrial port city. The investigation is guided by two primary research questions: ***Can the study of LL increase one's awareness of the demographics (i.e., population size, ethnic composition) of their communities?, and Can the study of LL increase one's 'language awareness'?*** The instructional activities and accompanying inquiries are carefully constructed within the theoretical framework proposed by Lefebvre (1991), known as the triadic model of space production, encompassing the notions of perceived, conceived, and lived spaces. This theoretical framework is adapted to the context of LL study by Malinowski (2015), who employs it as a conceptual framework and a valuable resource guide specifically tailored for educators, particularly those in the field of language education, seeking to integrate LL investigation into their curricular endeavors.

Rayong facts: Its geography and economy

Rayong is situated on the Gulf of Thailand, in the East of Thailand. Located approximately two hours southeast of Bangkok, the city has gained prominence due to its coastal position and proximity to the capital, leading to its emergence as a significant port and industrial center. Owing to its scenic beaches, pristine islands, national parks, and historical temples, Rayong has also emerged as a favored tourist destination, attracting both local Thai visitors and international tourists. Consequently, the city's economic revenue primarily stems from its industrial sector and thriving tourism industry. Consequently, Rayong exhibits a notable presence of foreign residents and workers, drawn to the city on either a permanent or temporary basis. This diverse community comprises individuals of various nationalities, ethnicities, languages, and social backgrounds, suggesting the likelihood of demographic diversity being reflected in the LL of the city. According to 2016 statistics from the Ministry of Labor, Rayong is home to approximately 109,870 foreign workers, with the largest groups being (indicating the Ministry's estimated number of workers):

- 1. BOI (Board of Investment) contracts (5,881):** Under bilateral agreements, foreign investors are allowed to do their industrial business in Thailand. They are primarily skilled professionals, such as engineers, managers or skilled technicians. (<http://www.cbre.co.th/th/SubServices/thailand-investment--BOI-IEAT-incentives/>);
- 2. Non-B visa (3,659):** These include foreign employees who work for a more than 2-million-baht capital Thai business. They might be Filipinos, American, British, or African teachers, employees in tourism or import and export businesses;
- 3. Hill tribe people (1,259):** These are undocumented workers of unidentified nationality living in the northern and western border regions of Thailand, Laos and Myanmar who come to Rayong for employment;
- 4. MOU (Memorandum of Understanding) (6,054):** These are construction workers, janitors and other unskilled laborers from four neighboring countries, Myanmar, Laos, Cambodia and Vietnam who work under the bilateral agreements;
- 5. Registered Laos, Burmese and Cambodian (18,762):** These are workers who are not under either BOI and MOU contracts but have a legal work permit; and
- 6. Non-registered Laos, Burmese and Cambodian (74,155):** These are workers who are illegally working in Thailand without a work permit.

METHODOLOGY

Research design

The project lasted six weeks with 19 students in Rayong, Thailand. On Saturday, they were studying in extra English classes at a language school. They lived in different parts of the city, and none of them lived in the two sites that were going to be observed, the Night Street and Ban Phe. Consequently, none of them possessed a deeper understanding of the two sites than the others. The students were required to send five photos of signs around their neighborhood around their area via Line application every week and to discuss them in class on Saturday. They were also asked a set of questions in weeks 1 and 6 to measure changes in their awareness and perceptions of Rayong. The content analysis was conducted to examine students' recognition of languages in their community and their ability to connect language patterns on signs to neighborhood characteristics. Thematic analysis is also provided to present the study's insights into how active exploration of LL influenced students' attentiveness, observation skills, recognition of languages represented, and overall learning. Finally, the results were reported corresponding to the concept of space by Lefebvre (1991): conceived space, perceived space, and lived space.

Participants

The project was situated within two elective high school-level courses: a communication course and an English reading and writing course. Both courses were offered as supplementary classes outside the standard high school curriculum. The communication class conducted every Saturday from 9:00 a.m. to 12:30 p.m., while the English reading and writing class met from 1:30 p.m. to 5:00 p.m. During each session of these classes, one hour was dedicated to the implementation of the project. The consent form was sent to the parents of 19 participants to allow them to take part in this study. The participants were divided into two teams: "the classroom team" and "the detective team". Due to the schedule conflict and logistics, only nine students could join the detective team, which they need to visit the two sites: the Night Street and Ban Phe.

Research instruments

This study adopts Lefebvre's (1991) theoretical framework of space, which has been applied to the analysis of LL by Trumper-Hecht (2010) and adapted for pedagogical purposes by Malinowski (2015). "Lefebvre's framework encompasses three distinct spaces: perceived space, conceived space, and lived space, which represent different modes of existence, relationships, interactions, and knowledge of the world" (Malinowski, 2015, p. 1). Perceived space pertains to the sensory perceptions and observations made by individuals. Conceived space is more abstract and encompasses policies that shape the creation, background knowledge, and perception of space, including top-down representations found in public spaces. Lived space refers to the actual experiences people have within public spaces. Table 1, derived from Malinowski (2015, p. 105), integrates Lefebvre's model of space with Trumper-Hecht's adaptations for LL analysis, along with Malinowski's proposed pedagogical applications.

Table 1

Lefebvre's three spaces in LL research and language pedagogy (from Malinowski 2015, p. 105)

Type of spatial relation	Definitions (Lefebvre, 1991)	Definitions adapted For LL research methods (Trumper-Hecht, 2010)	Sample applications in pedagogy in L2 teaching
Conceived space (also, 'representations of space' in Lefebvre)	"tied to the relations of production and to the 'order' which those relations impose, and hence to knowledge, to signs, to codes, and to 'frontal' relations" (p. 33)	"the representations held and promoted by policy makers" (p. 237)	Critical reading, comparison, analysis, evaluation and other activities with source texts including: <ul style="list-style-type: none"> - Language textbooks - Demographic data and policy documents: census, map, etc. - Books, articles, reading/film selections according to language, place, thematic concerns - Newspaper and online articles covering local issues and events
Perceived space (also, 'spatial practice' in Lefebvre)	"embraces production and reproduction, and the particular locations and spatial sets characteristic of each social formation" (ibid.)	"that which is created by people and documentable through the camera" (ibid.)	Students' first-hand observation of the LL: <ul style="list-style-type: none"> - Decoding of words, symbols, other LL elements - Collection and categorization of signs - Textual and (multimodal) discourse analysis
Lived space (also, "representational spaces" in Lefebvre)	"embodying complex symbolisms, sometimes coded, sometimes not, liked to the clandestine to underground side of social life, also to art." (ibid.)	"the 'experiential' dimension of the LL as it is presented by 'inhabitants'" (ibid.)	Ethnographically-informed investigation into local actors' views and experiences: <ul style="list-style-type: none"> - Interviews using the L2, or about L2 signs - Participant observation (listening, speaking practice, etc.) - Interpretive walking tours - Collaborative mapping and writing activities

Through the three dimensions of space, perceived, conceived and lived spaces, students are allowed to reflect their neighborhood's language, people and place. Malinowski's adaption of Lefebvre's model of perceived, conceived, and lived spaces provides a valuable lens for understanding how LL exploration can enhance language awareness. This framework was chosen because it could give the students' full comprehension of the place they live in, which is not simply seen through their eyes but to closely observe. As Lefebvre (1991) mentioned in his work, in order to understand a full picture of the space a society creates, we need to look at both real and the imagined space, which cannot be seen with our own eyes as it is reproduced to let us imagine (e.g., advertisements), as well as how they connect to each other and to the actual practice of space. As demonstrated by Stjernholm (2015), people who make signs need to consider the market and their audience, or the lived and perceived spaces, in order to create conceived space and make money from the language. Therefore, to achieve this goal, guided questions regarding the concepts of space should be generated. Failure to do so, our novice researchers might experience too many cognitive demands (Yu et al., 2023), and the open-ended nature of the study would cause confusion (Chesnut et al., 2013).

Not only are these signs viewed as social and economic tools beneficial for discovering the relationship between language and place, but they also provide learners with opportunities to read and write in the target language outside the classroom, which seemed to be the only place where English is used for our context.

Investigating the perceived space sharpens students' attention to textual details, multilingual uses, language choice patterns, and other linguistic features in their surroundings. Examining conceived space expands awareness of language policies, official versus local language uses, and representations. Exploring the lived space allows students to discover multiple social perspectives on languages, their connotations, and symbolic meanings. By engaging with the LL through these integrated spatial perspectives, students develop greater attentiveness to languages in context, appreciation of diverse communicative purposes, and recognition of the social dimensions of linguistic choices. This complex process aligns closely with key factors of language awareness, making Lefebvre's framework a relevant conceptual anchor for LL pedagogy aiming to enhance learners' sensitivity to languages in their environment.

Within the theoretical framework outlined above, the present research developed contextually relevant activities tailored to the language classes conducted in Rayong. This study opted the earlier action research conducted by Dagenais et al. (2009). Their study was a 3-year-longitudinal study, where they recruited grade 5 students to exchange their letters talking about their LL in their neighborhood between the two cities: Vancouver and Montreal. Later, the students were required to go out 1 km away from the school to take photos of the four street surroundings. The observed zones were residential suburb and commercial streets near the school. However, in this study, as the students were in secondary school, they were asked to take photos of their neighborhood themselves by using their smartphones and eventually did the field study by going to the two commercial streets in Rayong, Night Street and Ban Phe.

Data collection

While there are a few studies suggesting questions to elicit thoughts of participants for example, specific questions pre-, during, and post- a store visit questions (Yu et al., 2023) and narrative research method used in Chesnut et al. (2013) study, both of them were either too specific or too broad for this study. The former project was focused on a single place which the tailored questions seemingly centered around the place. The latter study, narrative method was applied to three English major students, the researcher found out that no guided questions, the participants felt overwhelmed by the information and had no direction what to analyze. To avoid these issues, this study generate and adapt questions based on the Malinowski's (2015) and Lefebvre's conceptualization of three spaces, and some of items were adapted from the study of Dagenais et al. (2009) and adjusted to suit the study's context. To gather data in accordance with the suggested theoretical framework, a questionnaire consisting of twenty-two items was developed, and each item was reviewed by an LL lecturer in a university. The questionnaire aimed to elicit students' initial perceptions of their community and examine how those perceptions evolved following the LL lesson. Additionally, two field trips were organized to selected tourist streets, providing students with firsthand experience in focused data collection. The students were divided into two groups: the "classroom team" and the

“detective team.” The former was tasked with observing their own neighborhoods and responding to directed questions, while the latter, comprising only nine students due to scheduling conflicts and transportation limitations, not only observed their neighborhoods and reflected on the same set of questions but also visited Ban Phe and Night Street to collect empirical data specific to these locations, which they subsequently shared with the entire class.

During the initial week, all students were requested to depict their neighborhoods through drawings and respond to inquiries pertaining to Rayong. They were then presented with demographic information, including census data and maps, to enable a comparison between their intuitions about Rayong and the actual data. From weeks 2 to 4, students were instructed to capture five photographs of signs within their respective neighborhoods and submit them to the teacher/researcher using the Line application. Throughout these three weeks, the students’ photographs were showcased and discussed during regular class sessions to stimulate their thoughts regarding their peers’ neighborhoods. In the fifth week, the detective team ventured into the field to photograph the LL of two streets in Rayong, conducting interviews with shop owners and documenting their findings. Five students from the Saturday morning class explored Ban Phe near the pier in the morning, while four students from the afternoon session visited the tourist-oriented Night Street in the afternoon. The final week was dedicated to reflecting upon the knowledge acquired about their neighborhoods and the broader community. The detective team presented their findings, after which a series of 14 questions guided student discussions.

Counting signs and selecting interviewees

Given the research objective of cultivating awareness rather than emphasizing language analysis, the selection of sign photographs aligned with the students’ individual interests. Consequently, all types of signs, encompassing both official and non-official, monolingual and multilingual manifestations, were included in the data collection process. Shop signs constituted a substantial portion of the collected material and encompassed a range of formats, such as framed signs displayed in front of shops, awnings, and freestanding signs. The size of these signs varied considerably, ranging from small written stickers affixed to doors to larger billboard-sized displays. Similarly, the selection of potential interviewees was driven by the students themselves. The student volunteers chose interviewees based on the availability and willingness of shop proprietors to engage in the interview process.

Designing questions

In accordance with Malinowski’s (2015) operational definitions and class activities on Lefebvre’s conceptualization of three spaces, a series of questions was formulated to elicit students’ perception and analysis of their linguistic environment within the physical context. The first set of questions, administered on the first day, aimed to explore students’ pre-existing awareness of their neighborhood and the city. Subsequently, a diverse and purposefully sequenced set of questions was employed in conjunction with the final presentation. The questions, their underlying rationale, and the sequential arrangement of activities are presented in Table 2 for reference.

Table 2
Activities timeline and questions asked based on Malinowski's (2015) sample application pedagogy in L2

Week	Activity	Rationale	Details
1	a) Drawing my neighborhood	To recall the students' perception of their neighborhood	The students draw the map showing the areas around their houses including landmark, shops and official institutes.
	b) Answering questions about Rayong	To review and scaffold the knowledge about Rayong and their neighborhood	<p>The students answer eight questions about Rayong and their neighborhood.</p> <ul style="list-style-type: none"> • Q1 What languages are spoken in Rayong? • Q2 What is Rayong famous for? (What kind of city is Rayong?) • Q3 How often do you meet foreigners in Rayong? • Q4 Have you found some people around your house speaking in another language? • Q5 How many people live in Rayong? • Q6 How many foreigners work in Rayong? • Q7 What jobs do they perform here? • Q8 How many tourists come to Rayong each year?
2-4	Exploring your neighborhood	To gather information about their neighborhood by taking pictures of signs (see the definition of signs in the literature review section)	<p>The students survey their neighborhood by taking at least five pictures of signs in their immediate neighborhoods and send their pictures via Line application to the teacher.</p> <p>One-hour discussions of photos from the students' neighborhoods elicit students' initial impressions of the linguistic diversity in the community.</p>
5	Exploring two tourist streets in Rayong	To explore LL in the city center by taking a walking tour, taking pictures of shop signs and interviewing shop owners	<p>The nine volunteer students are divided into two groups: one goes to Ban Phe and the other goes to the Night Street in Rayong. The students walk, take pictures of shops' signs and interview shop owners about the sign making process and motivation.</p> <p>The students summarize the findings and discuss the result with the entire class.</p>
6	Reflecting on your neighborhood	To check whether their perception of their neighborhood has changed or not and see how much they notice the relationship between LL and the area	<p>The students are asked to answer the questions after presenting the results of the field trip and two different sets of shop signs from the two different areas: residential and tourism places.</p> <ul style="list-style-type: none"> • Q1 From the information given about Rayong, what languages are possibly used in the city? • Q2 Around your neighborhood, are there any other languages used in writing and speaking? • Q3 What written language can you see around your neighborhood? (Think of shop signs, billboards, commercial ads, etc.) • Q4 What kind of areas were there? Do you think they are tourist places? (This question is presented after pictures of shop signs in residential areas are shown.) • Q5 What kind of places do you see in the picture? (This question is presented after pictures of shop signs in two tourist streets are shown.) • Q6 Do you notice the place?

Week	Activity	Rationale	Details
			<ul style="list-style-type: none"> • Q7 What LL do you observe? • Q8 Why do the owners use English on their signs? • Q9 Compare your answers with the field trip students' answers. Was it different or similar? • Q10 Compare the presented areas to your neighborhood; how would you describe your neighborhood? • Q11 How do the languages used reflect the neighborhood? • Q12 To what extent do you think that LL in Rayong will change in ten years? • Q13 Awareness of languages used in your neighborhood is one way to know more about your community and culture. Do you agree or disagree? • Q14 Looking at signs around the neighborhood helps you learn language. To what extent do you agree?

RESULT AND DISCUSSION

The LL project was implemented over 6 weeks with 19 students in Rayong, Thailand. Students were asked identical questions in week 1 and week 6 to assess changes in their awareness and perceptions of Rayong. Analysis of responses reveals the project enhanced students' recognition of languages used in their community and ability to relate language patterns on signs to neighborhood characteristics. Appendix A contains a table that details the analysis of student responses and interpretations for each question in the LL project.

Research Question 1: Can the study of LL increase one's awareness of the demographics (i.e., population size, ethnic composition) of their communities?

Prior to the project, students' neighborhood familiarity was limited, evident in LL knowledge gaps. As we can see from Figure 1, students were able to put only big landmarks or shops on the maps. There were some students who were struggling to recall and draw their neighborhood in detail. When asked "What languages are spoken in Rayong?", nine out of 19 students (47%) only identified Thai dialects. Additionally, just five out of 19 students (26%) reported non-Thai languages spoken near homes. This signals narrow awareness of neighborhood language diversity especially since 14 students (74%) indicated only hearing Thai around houses in week 1.

Figure 1 Maps with some big landmarks and shops that the students have been

Students also struggled estimating precise neighborhood statistics: only four out of 19 students (21%) provided reasonable population guesses for 840,000 Rayong residents. When queried on 109,870 foreign employees in Rayong, merely two students (11%) were accurate. Further demonstrating weak understanding, no students correctly gauged the 6.65 million annual tourists.

However, after week 6 landscape analysis, 18 out of 19 students (95%) successfully distinguished residential areas from tourist spots through linguistic cues on signs. For instance, students identified predominantly Thai home signage. This signifies enhanced recognition of how languages mark community spaces. Still, six students (32%) struggled categorizing some locales, indicating persistent interpretation challenges.

Interestingly, when reflecting on tourist street field trips, 16 out of 19 students (84%) felt Rayong's landscape mirrors their neighborhood's diversity. As one explained "the languages used represent the cultures living here." This indicates that situated learning enabled contextual insights into students' own communities.

In summary, through landscape analysis, students made significant gains in awareness of varied languages used and seen across contrasting neighborhood areas in Rayong. The project provided locally grounded learning for recognizing and interpreting diversity in students' own communities.

Research Question 2: Can the study of LL increase one's 'language awareness'?

The LL project conducted over 6 weeks in Rayong, Thailand aimed to enhance 19 secondary school students' recognition of the languages, especially English, used in their community. Analysis of student responses to identical questions in Week 1 and Week 6 of the project reveals significant improvements in their awareness of language.

In Week 1, only five out of 19 students (26%) reported hearing languages like English, Burmese and Lao around their homes, with most identifying only Thai. After the project in Week 6, this number rose substantially to 15 out of 19 students also noting the presence of English, Khmer, Burmese and Chinese in their neighborhoods.

Regarding English signage, in Week 1, 10 students (53%) identified some shops having signs with English words. However, after the 6-week LL module, 18 students (95%) reported seeing English words and phrases on commercial signs around their neighborhoods, along with other languages. For example, one student noted English words on a sign saying "Steak Countryside" written in Thai script (see Figure 2).



Figure 2 Pictures of signs in residential areas in Rayong presented in the presentation in week 6

An area where students demonstrated better attentiveness was in distinguishing tourist regions from residential neighborhoods based on language patterns. After examining images of signs from different locales in Week 6, 18 out of 19 students (95%) successfully classified residential areas having predominantly Thai and tourist areas with more English. One student justified it by noting “more hotels and fewer houses” in tourist locations.

Furthermore, seven out of 19 students (37%) specifically compared two tourist streets presented to them, discerning that the “Night Street” area had a heavier concentration of English signs compared to “Ban Phe pier” to cater to foreigners. This demonstrated a sensitivity to variation in English across different public spaces (see Figure 3).



Figure 3 Pictures of signs in Night Street and Ban Phe in Rayong presented in the presentation in week 6

All 19 students (100%) also agreed that observing LL enables language learning. They reflected signs expanded their English vocabulary over the 6 weeks. However, one student highlighted that exposure to incorrect spellings on some signs, like a “Welcom” sign, could be counterproductive for proper acquisition (see Figure 4). In addition to the misspelled word noticed by the students, some students recognized the Thai script with English lexicon (see Figure 5).



Figure 4 The misspelling of ‘Welcome’ sign that the students can point out



Figure 5 A sample of a salon using Thai script with English lexicon ‘แฮร์ แอนด์ สปา’

Overall, the analysis clearly indicates that after the LL module, students made significant gains in their awareness and ability to recognize linguistic diversity present in their own communities differently in two areas: tourism versus residential areas. The analysis indicated that the project helped students better understand the connections between the linguistic environment and the characteristics of different spaces in their community.

THEMATIC ANALYSIS OF RESEARCH FINDINGS

This study explored the impact of a linguistic landscape module on enhancing students' language and cultural awareness. The analysis of key findings reveals four central themes highlighting the transformational effects of this instructional intervention, namely heightened awareness of neighborhood surroundings, recognition of English prominence despite limited diversity, LL reflection and shaping of neighborhoods, and LL as a learning tool. Through multiple data sources including questionnaires, interviews, and observations, the researchers were able to identify overarching thematic patterns regarding the module's outcomes. This section presents a rich discussion of these emergent themes, framed around the research questions. The themes provide meaningful insights into how active exploration of LL influenced students' attentiveness, observation skills, recognition of languages represented, and overall learning.

Table 3
Thematic analysis of research findings

Theme	Detail of explanation	Example
Heightened awareness of neighborhood surroundings	<ul style="list-style-type: none"> - Students initially struggled to recall and depict details of their neighborhoods, only including familiar landmarks. - After the LL project, students demonstrated greater attentiveness to their surroundings, correctly identifying residential vs tourist areas based on signage. - Students showed interest in and curiosity about unfamiliar languages like Japanese and Korean seen on signs. - The LL project made students more observant of the languages and signs present around their homes. 	<p>Refer to Figure 3</p> <p>15 students said that other languages such as English, Khmer, Burmese, and Chinese will be heard.</p> <p>Eight students reported being able to recognize the usage of Thai, the Rayong dialect, Burmese, Laotian, and Chinese.</p> <p>17 students reported the presence of English as well as other languages such as Chinese, Korean, Italian, and Japanese.</p>
Recognition of English prominence despite limited diversity	<ul style="list-style-type: none"> - Students identified greater English usage in tourist areas compared to residential neighborhoods. - They noted English loanwords and translations on commercial signs, like "steak countryside." - Students observed that incorporating English conveys modernity and social status. - However, some felt the LL did not fully reflect Rayong's linguistic diversity. 	<p>18 students demonstrated the ability to correctly identify the area as residential, with several offering detailed justifications for their conclusions e.g., "No, because it predominantly features Thai language," "No, there is a lack of hotel signage indicating it is not a tourist area," and "No, the majority of signs are related to restaurants and shops."</p>

Theme	Detail of explanation	Example
LL reflects and shapes neighborhoods	<ul style="list-style-type: none"> - Students effectively related signage languages to the nature of different neighborhoods. - They noted tourist areas use more English to appeal to foreign visitors. - Students saw connections between LL, neighborhood demographics and economic activities. - Some noticed inaccuracies between the LL and Rayong's multicultural reality. 	<p>Eight students successfully named "Ban Phe," the pier to Samed Island, while seven students recognized Night Street.</p> <p>16 students recognized the nature of the places based on the languages featured on the signs.</p> <p>All the students were able to draw comparisons between their own neighborhoods and the field trip locations, indicating an improved understanding of their own neighborhood through the identification of LL similarities and differences.</p>
LL as a learning tool	<ul style="list-style-type: none"> - All students agreed LL helps enlarge vocabulary and learn languages. - But inaccurate signs can impede learning, requiring critical perspective. - LL spotlights areas needing improvement and represents hoped-for diversity. - Hands-on engagement with LL aided cultural understanding and language skills. 	<p>The students identified the presence of borrowed words, exemplified by the use of the English term 'steak' written in Thai script.</p> <p>The Thai syntax of "steak countryside" denoted "countryside steak". And "Thong service" featured Thai script with a small English duplication at the top, adhering to English syntax.</p> <p>The students also observed instances of code-switching in the sign "Phloentaa Garden," where "Phloentaa" was written in Thai, while "Garden" was presented in English, following English syntax.</p> <p>All of them agreed that looking at signs could help them enlarge their lexicon in English or any other foreign language.</p>

The key findings from the LL research study can be analyzed through four main themes. The first theme demonstrates that the LL project could heighten students' awareness of their neighborhood surroundings. Initially, students struggled to recall details of their neighborhoods and only included familiar landmarks on their maps. However, after participating in the project, students exhibited greater attentiveness to linguistic elements around their homes. They were able to correctly identify tourist versus residential areas based on signage languages. Students also expressed curiosity about unfamiliar languages like Japanese and Korean seen on signs, indicating expanded awareness.

The second theme highlights that while students recognized the prominence of English in tourist districts, they felt Rayong's linguistic diversity was not fully reflected. Students identified

greater usage of English on signs in tourist neighborhoods compared to residential areas. They noted the presence of English loanwords and translations, which conveyed modernity and social status according to what was said by the shop owners. However, some students observed that the overall LL did not represent the full multilingual reality of Rayong. In other words, they were able to notice discrepancies between signage and true diversity which emerged as the highlight of the third theme. Finally, the fourth theme conveys those students viewed LL exploration as an enriching learning tool. All students agreed that examining neighborhood signs helped expand their vocabulary and language skills. However, inaccurate signage could impede learning, requiring critical perspective. In summary, the hands-on learning experience provided meaningful growth in language knowledge and cultural understanding.

Linguistic landscape as a language learning space and concept of space by Lefebvre

The study attempted to utilize Lefebvre's framework of conceived, perceived, and lived spaces to guide data collection and analysis. Initially, students had limited factual knowledge and conception of the demographics and linguistic diversity in Rayong. However, presenting census data and statistics through the research expanded their understanding of the city's multicultural composition. This demonstrates the value of *conceived space* in providing an informative conceptual foundation.

Regarding *perceived space*, students' initial neighborhood maps lacked detail, only including familiar landmarks. By photographing LL signs in their surroundings, students became more observant of languages, word borrowings, syntax, and other textual features. This first-hand documentation and observation enhanced their perception and recognition of linguistic elements.

The *lived space* perspective was conveyed through interviews with shop owners about motivations behind their signage and students sharing anecdotes about using English in daily life. Comparing tourist areas to their own neighborhoods also provided lived insights, revealing students' greater familiarity with their surroundings.

Key findings indicate that the multi-dimensional approach incorporating conceived, perceived, and lived spaces enabled students to develop fuller understanding of Rayong's diversity, increased attentiveness to LL, and recognition of the role signage plays in representing neighborhoods. The study affirms the value of Lefebvre's spatial relations framework in guiding impactful learning through interconnected conceptual, observational, and experiential perspectives. By engaging students in conceived, perceived, and lived dimensions of space, the LL module enriched their linguistic and cultural awareness.

CONCLUSION

This small-scale action research project provides interesting evidence for the effectiveness of LL exploration in promoting foreign language learning and cultural awareness. The study reveals how the multidimensional framework of conceived, perceived, and lived spaces facilitated enriching the students' understanding of their surroundings. Initially, students had limited

factual knowledge and awareness of Rayong's diversity, as reflected in their basic neighborhood maps. Presenting facts of the city and statistics expanded their conceived understanding of the city's demographics. Photographing neighborhood signs made students more observant of linguistic features, enhancing perceived space. Interviews with shop owners and sharing anecdotes conveyed the lived dimensions of the LL. As students engaged with the LL through these three spatial lenses, they developed greater attentiveness and recognition of languages, signs, and neighborhoods. The project fostered curiosity about unfamiliar languages and spotlighted areas needing improvement in representing diversity. Overall, hands-on learning facilitated through conceived, perceived, and lived spaces allowed students to make meaningful connections between language, culture, and community.

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Appendix A

Details of the analysis of student responses and interpretations for each question in the linguistic landscape (LL) project

Section (Week)	Questions	Summary of responses	Interpretation
Section 1 (week 1)	Q1 What languages are spoken in Rayong?	Nine students said only Thai is spoken while 10 mentioned other languages e.g. English, Burmese, Khmer, Laotian, and Chinese.	The students mentioning multiple languages might also imply that they are cognizant of the diverse demographics of their neighborhood. This could include the presence of residents, workers, or visitors from different linguistic backgrounds.
	Q2 What is Rayong famous for? (What kind of city is Rayong?)	12 students noted that Rayong encompasses both tourism and industry. They provided examples of well-known attractions such as Samed Island and waterfalls.	This implies that the students are aware of Rayong's multifaceted nature and its appeal as a destination for tourists while also acknowledging its industrial significance.
	Q3 How often do you meet foreigners in Rayong?	15 students frequently engaged with foreign teachers, while only one student referred to interacting with foreign tourists.	The students' interactions with foreigners are notably restricted, with schools being the primary context for such encounters.
	Q4 Have you found some people around your house speaking in another language?	14 students heard solely Thai spoken around their homes, compared to five students who noted hearing other languages like English, Burmese, Laotian, Chinese, and German as well.	Prior to the LL module, most students had limited awareness or exposure to linguistic diversity in the daily surroundings of their local communities.
	Q5 How many people live in Rayong?	Four students provided population estimates closest to the actual figure of 840,000, with guesses ranging from 700,000 to 1,000,000.	There is a limited awareness or knowledge about the precise demographic details of their community, in this case, the population of Rayong.
	Q6 How many foreigners work in Rayong?	Two students gave closest to the actual figure of 109,870.	There is a limited awareness or knowledge about the precise demographic details of their community, in this case, the foreign employees in Rayong.
	Q7 What jobs do they perform here?	Diverse answers were given e.g. teachers, fishermen, waiters, salesclerks, gardeners, engineers, maids, builders, and managers.	The students recognize the presence of a diverse range of foreign workers with different occupations in their area.
	Q8 How many tourists come to Rayong each year?	None of the students gave a close estimate to the actual of 6,650,710.	There is a limited awareness or knowledge about the precise demographic details of their community, in this case, the tourists in Rayong.

Section (Week)	Questions	Summary of responses	Interpretation
Section 2 (week 6)	Q1 From the information given about Rayong, what languages are possibly used in the city?	16 students mentioned many languages e.g. English, Chinese, Khmer, Laotian, Burmese, etc.	The students' ability to accurately classify areas and explain their reasoning reflects their heightened awareness of the LL in their community.
	Q2 Around your neighborhood, are there any other languages used in writing and speaking?	15 students reported that they would hear Thai, English, Khmer, Burmese, and Chinese.	Awareness of languages used in their local was increased.
	Q3 What written language can you see around your neighborhood? (Think of shop signs, billboards, commercial ads, etc.)	18 students saw English, Chinese, Korean, Italian, and Japanese around their neighborhood.	The awareness of language diversity was improved by self-observation and teacher's presentation.
	Q4 What kind of areas were there? Do you think they are tourist places? (This question is presented after pictures of shop signs in residential areas are shown.)	18 students can classify residential areas and tourism areas and gave justifications to their answers.	The students' ability to accurately classify areas and explain their reasoning reflects their heightened awareness of the LL in their community.
	Q5 What kind of places do you see in the picture? (This question is presented after pictures of shop signs in two tourist streets are shown.)	Six students correctly identified the locations and six students mistakenly classified them as a residential area.	The responses indicate that there was variability in the students' levels of awareness and interpretation of the linguistic landscape.
	Q6 Do you notice the place?	Eight students recognized the pier to Samed island, and Seven students noticed the Night Street.	The responses indicate that there is a range of local knowledge among the students. Some are more aware of specific landmarks associated with their community, while others may not be as familiar with these locations. However, LL may not be explicit to distinctiveness between the two places.
	Q7 What LL do you observe?	16 students recognized the places based on the languages featured on the signs, which 7 people from this group could compare the frequency of English signs between the two locations.	This comparison shows a higher level of awareness of the linguistic diversity within their community. These students are not only recognizing languages on signs but are also discerning variations in the prevalence of English in different areas.
	Q8 Why do the owners use English on their signs?	10 students from non-field trip and field-trip groups regarded the English signs as a representation of modernity and social status. Only field-trip group could note that the use on Thai language with the English sign is because of tax regulations.	Interview could help students understand their lived space more fully.

Section (Week)	Questions	Summary of responses	Interpretation
Section 2 (week 6)	Q9 Compare your answers with the field trip students' answers. Was it different or similar?	Non-field trip and field trip groups recognized the functional purpose of using English, that is to facilitate English speaking people.	Students recognized the functional purpose of using English, that is to facilitate English speaking people.
	Q10 Compare the presented areas to your neighborhood; how would you describe your neighborhood?	All students could draw their neighborhoods in comparison with the observed sites.	Their awareness increased after being introduced about LL.
	Q11 How do the languages used reflect the neighborhood?	16 students mentioned that LL in their neighborhoods reflect the community characteristics. Two out of 19 argued that LL did not fully present the diversity in their areas. One student pointed out that LL in tourist areas did not capture variety of language in those locations.	Their awareness increased after being introduced about LL, and their understanding regarding lived space is better.
	Q12 To what extent do you think that LL in Rayong will change in ten years?	15 students believed that LL in the city would be changed. Four students saw the opposite as the LL used today was like that of five years ago.	They began to develop insights into the LL used in their city.
	Q13 Awareness of languages used in your neighborhood is one way to know more about your community and culture. Do you agree or disagree?	16 students believed that LL in their areas reflected their community's identity.	The 16 students perceived a strong connection between the LL of their areas and the cultural identity or character of their community.
	Q14 Looking at signs around the neighborhood helps you learn language. To what extent do you agree?	All of them saw LL as a good source of language learning. It helped expand their vocabulary list. However, one stressed that incorrect writing could distract his/her learning.	Students perceive the LL as a tool for language acquisition.