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Using DEMATEL to determine the Most Influential Factors affecting Students' Weaknesses in Parts of Speech

Tengku Nazatul Shima Tengku Paris^{1,*}, Natasha Zuhaimi¹, Faiza Rostam Affendi¹, Khamizatul Baizura Idris¹, Pauline Georgina Priya Hebert Sundram¹

¹ Akademi Pengajian Bahasa, Universiti Teknologi MARA, Cawangan Pahang Kampus Raub, 27600 Raub, Pahang, Malaysia

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ABSTRACT

Language learners need to have a solid understanding of parts of speech to write and speak well. The study examines the factors behind the poor understanding using the Decision-Making Trial and Evaluation Laboratory (DEMATEL) method. The researchers used five factors from the existing literature, including mother tongue interference, limited reading habits, insufficient grammar instruction, poor vocabulary knowledge, low motivation and learners' attitudes. Five language teaching experts examined the relationships among the factors using structured questionnaires. The DEMATEL method was used to determine the causes and effects of the problem. The findings show that the mother tongue interference and the limited reading exposure contribute to students' poor understanding of parts of speech. The results offer practical guidance for teachers and policymakers seeking to address grammar weaknesses more effectively. More importantly, the study suggests how decision-making approaches can offer new guidance to constant challenges in language teaching and learning.

1. Introduction

Language learners will understand how frustrating grammar learning can be. One of the difficult grammatical topics that learners have to master includes the parts of speech, which is known to be challenging. Nouns, adjectives, verbs, and adverbs might seem simple on the surface, but their semantic, morphological, and syntactic aspects can be complicated [1]. Those who struggle with the parts of speech will surely find it hard to master the English language and construct simple sentences in writing academic essays. Although learners have been learning English since primary school, they continue to make grammatical errors, including issues with verb tenses and confusion about parts of speech [2,3]. The problem is no longer something new in the education system. A proper solution is needed to help learners master their grammar.

* Corresponding author.

E-mail address: tnshimal@uitm.edu.com

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The problem is even greater in Asia. At the grammatical level, many Asian languages differ significantly from English. For instance, Bahasa Malaysia does not indicate verb tense by changing word endings, as English does [4]. For students who speak these languages, learning English parts of speech means not only learning new rules, but also going against habits and instincts that have built up over years of using a completely different language system. Researchers in Southeast Asia have found that differences in the structures of learners' first languages and English are a major reason students continue to make grammatical mistakes, even after years of studying English [4]. This shows that the issue is not due to effort or motivation. It comes from a deeper source, and it is complicated.

One example is in Malaysia. Since Malaysia became independent, English has been a required subject in schools. It starts in Year One of primary school and continues through secondary school. With this much exposure, it would be fair to expect Malaysian students to learn basic grammar well over time. However, the truth is different. Numerous studies indicate that a significant proportion of Malaysian students, across various school types and geographic regions, persist in making consistent and recurrent errors in parts of speech well into their secondary and even tertiary education years [5,6]. English Language proficiency is the national aim, where students who do well in the language will have a better chance of tertiary education and employment. The consequences of these weaknesses are real and wide-ranging. For individual students, a poor command of parts of speech directly translates into weaker academic writing, lower examination performance, and reduced confidence in communication, all of which affect their prospects in higher education and employment [7].

In general, employers and universities have repeatedly raised their concerns about the grammatical errors made by Malaysian graduates. In general, employers and universities have repeatedly raised their concerns about the grammatical errors made by Malaysian graduates. They claim that the errors hamper the students' performance in both professional and academic settings [8]. Something has to be done to improve the situation, as English proficiency is a key driver of national development.

Many initiatives have been taken to improve the situation. Some of them are new approaches using technology-based teaching materials and activities to spark excitement in the classroom, efforts undertaken by researchers, teachers, and curriculum developers [9,10]. Although some approaches have improved the situation, overall, there has been little change. This is due to mother-tongue interference and poor grammatical knowledge among learners, which hinders their efforts. We need a clearer picture of which factors are most important, how they are connected, and where interventions would have the greatest overall impact on students' ability to use parts of speech.

It is the gap that this study wants to fill. There is extensive research showing that Malaysian students struggle with parts of speech. However, very few studies have gone beyond simply describing the problem to examine its causes systematically. Most of the research done so far has been based on surveys, error analyses, or observations. These are useful, but they do not provide the structured causal analysis needed to guide targeted, effective interventions. This study fills that gap by using the Decision-Making Trial and Evaluation Laboratory (DEMATEL) method. This well-known analytical tool uses expert judgement to map the cause-and-effect relationships among complex, interrelated factors. The study examines five main factors the literature suggests may be causing students to struggle with parts of speech by using the evaluations of five experts in English language education. The goal is to find out which of these factors are the real causes of the problem and which are better understood as results of those deeper causes. The results are meant to give teachers and policymakers who want to make a real difference in how Malaysian students learn and use parts of speech useful, evidence-based advice. The objectives of the study are to determine the important factors that affect students' weaknesses in parts of speech, to examine the causal relationships

among the recognised factors through the DEMATEL method, and to determine the most influential factors driving students' weaknesses in parts of speech and put forward practical recommendations for educators and policymakers. The study's goals are to examine which factors are most important in causing students' problems with parts of speech, to determine the relationships among these factors using DEMATEL, and to offer practical suggestions for teachers and policymakers on how to help students improve their parts-of-speech skills.

Parts of speech are among the hardest things for students to understand in grammar. On paper, it sounds easy. Nouns are words that name things, verbs are words that describe actions, and so on. Nevertheless, using these categories correctly in writing and speech is much harder than any textbook definition presented. Many students, from beginners to advanced learners, frequently make mistakes with word classes. The mistakes happen in very different educational settings and language backgrounds [11]. The problem is not just a one-time thing. It is something that crosses borders and classrooms, and it needs to be taken very seriously.

Over the past few years, studies have identified various grammatical mistakes that students make. A study from the Asian country [12] shows that people often make mistakes with verb tenses, confuse adjectives and adverbs, use the wrong forms of nouns, and place prepositions in the wrong places. Interestingly, many of these mistakes occur the same way every time, suggesting they are not just due to the person not paying attention or not trying hard enough. Instead, they show real gaps in understanding that have not been improved by teaching. When students keep making the same kinds of mistakes across different tasks and situations, it means something fundamental is at work, something that goes beyond just learning definitions and doing grammar exercises.

Parts of speech are hard to understand because students need to know more than just what each group means on its own. They need to know that words act differently depending on where they are in a sentence and what they do. They also need to know that the same word can belong to different groups depending on how it is used. In some cases, the word "run" can be a verb, a noun, or even an adjective. It takes time and exposure to develop this kind of flexible, context-sensitive grammatical knowledge, and many learners do not get enough of either [13]. The outcome is a superficial acquaintance with grammatical terminology that fails to yield precise, assured language use.

When we think about the different languages that learners in Asia speak, it becomes even harder to learn English parts of speech. Researchers call it "negative transfer" when habits from the first language get in the way of correctly producing the second language. This happens because most Asian languages are structured very differently from English [14]. For instance, in Mandarin, Thai, and Bahasa Malaysia, verbs do not change form to show tense, and there are no articles like "a," "an," or "the." For learners from these linguistic backgrounds, acquiring English parts of speech entails not only learning new rules but also actively countering deeply ingrained linguistic instincts.

First-language influences are a major reason why English learners, even those who have been studying the language for a long time, keep repeating the same mistakes. Researchers have found that students still struggle with basic word-class distinctions well into secondary and tertiary education. This is often because their first language does not require the same kinds of grammatical distinctions as English does [15]. This pattern in the region is important because it shows that Malaysian students' problems are not unique to Malaysia. It is part of a larger reality in Southeast Asia, shaped by the fact that many languages are spoken there and that English differs significantly from them.

In the regional context, Malaysia is a very interesting and important case. For decades, Malaysian schools have required students to learn English. In fact, students start learning English in Year 1. One in primary school and up to Form Five in secondary school. Students will have spent most of their eleven years learning English by the time they finish high school. However, the evidence consistently

shows that a large number of Malaysian students still leave school without a reliable command of even the most basic grammatical structures, including parts of speech [16].

To comprehend the difficulties students face with parts of speech, one must examine the underlying conditions and circumstances that facilitate their emergence and persistence. Researchers have identified several factors that may have played a role. While no single factor tells the whole story, five stand out in the literature as the most important reasons why students struggle with word classes.

The learners' first language plays an important role as they progress. They do not start writing or speaking without any internal foundation. There are grammatical habits and patterns they carry that will affect their second language. These habits do not just stop when they start speaking English [17]. This is what linguists call "negative transfer," which occurs when the grammatical rules of the first language are applied incorrectly in the second language, leading to mistakes that a native speaker would not make.

This is especially important for Malaysian students because the country has many languages. Most students speak Bahasa Malaysia as their first language, and many also speak Chinese dialects or Tamil at home. These languages all differ from English in ways that directly affect how students learn and use parts of speech. For example, Bahasa Malaysia does not change verbs to show tense. This makes it hard for Malaysian students to understand the English tense system, and they often omit or misuse tense markers in their writing [18]. Likewise, the lack of articles in Bahasa Malaysia causes a lot of confusion about when to use "a," "an," and "the," which are all closely related to the noun system and, by extension, to parts of speech. These patterns of interference are not random. These are expected outcomes of the structural gap between students' native languages and English, and they require focused, ongoing teaching to address.

Reading is one of the best ways for students to learn how parts of speech work in real life. When students read in English regularly, they see words used naturally and flexibly across many different types of sentences and genres. This exposure over time helps them develop an instinctive understanding of how word classes work [19]. This kind of implicit grammatical learning through reading is very useful because it shows students how grammar works in real life instead of in a textbook exercise

The issue is that many Malaysian students do not read enough English materials to get anything out of this kind of exposure. Researchers have consistently found that Malaysian secondary school students do not read English for fun very often. Most of them read only what their teachers tell them to [20]. When students have to read a lot of short-form digital content and use social media, formal written English often falls by the wayside. The opportunity to see how word classes work is hard with the lack of reading exposure. It is even harder for them to grasp the correct grammatical knowledge and apply it in their everyday lives.

It is very important how grammar is taught in school, and there is substantial evidence that the way it is taught in many Malaysian schools is not helping students understand parts of speech well enough. Teachers still traditionally teach grammar in many classrooms. They explain the rules, give definitions, and ask students to do fill-in-the-blank or multiple-choice exercises [9]. This kind of direct teaching is useful in some situations. However, it can be a problem when it is the only way to teach, as it tends to leave students who can identify grammatical categories in controlled exercises but cannot use them correctly in their own writing and speaking.

The secondary schools' standard curriculum aims to introduce change toward a more meaningful and holistic approach based on real-life speaking activities. It can be difficult for teachers to apply them in the classroom, especially when it involves many students and few resources [21]. As a result, the teaching landscape is inconsistent. Some students receive grammar lessons that are rich and

relevant to their lives, while others continue doing grammar drills that do not help them understand how parts of speech work at a deeper level. One of the most important ways to help students with their grammar problems is to close this gap in their instruction.

Many people do not realise that grammar and vocabulary are more closely related than they think. Knowing a word well is not only knowing what it means but also what kind of grammar it belongs to and how it works in different sentence situations [22]. A student who cannot change the word 'beauty' into different contexts: adjective (beautiful), adverb (beautifully), and verb (beautify), is losing the important grammatical element that will affect the way he speaks and writes intelligently. This type of word-family knowledge is an important part of knowing how to use parts of speech, so students with a small vocabulary face a double disadvantage when it comes to using word classes correctly.

Studies have consistently shown that Malaysian students' vocabulary levels are insufficient for them to use English comfortably and accurately in school settings [23]. Students with limited vocabulary knowledge are often unable to differentiate between a noun and an adjective or a verb and an adverb. They will also be unable to use the parts of speech correctly. So, vocabulary building and grammar building need to go hand in hand. Teachers can start introducing the parts of speech together to help students correctly discern their use.

The last thing the literature always talks about is metacognitive awareness, the ability to think about and monitor how someone uses language. Learners who are metacognitively aware notice when something does not sound right in their writing, consider whether they used the right word class, and try to fix their mistakes before turning in their work [24]. This type of reflective engagement with grammar is a strong motivator for improvement because it means that learning does not stop when the teacher stops talking. Students who keep an eye on how they use language are always learning from what they say.

Learning grammar passively, without critically thinking about why some answers are correct or incorrect, will do more harm to language learners [25]. When teachers fix mistakes in parts of speech, these students often agree with the correction without really understanding the rule behind it. This means they are likely to make the same mistake again in a different situation. It is not a luxury but a necessity for students to develop metacognitive awareness along with explicit grammatical knowledge if they want to improve their understanding and use of parts of speech for good.

Since all five of these factors make students weak in parts of speech and affect each other in complex ways, the question is how to determine which is most important. This is when the DEMATEL method is most useful. DEMATEL, or Decision Making Trial and Evaluation Laboratory, is a tool for analysing problems that are hard to solve because they involve many variables that are interrelated [26]. It works by getting experts to rate how much each factor affects and is affected by the others. Then, it uses these ratings to make a visual map of the system's causal relationships.

DEMATEL is especially helpful for this study because it does not just tell which factors are important. It tells us how they are connected, which ones are active forces that affect others, and which ones are more passive recipients of influence from other parts of the system [26]. To get past general comments about students' grammatical problems and make specific, evidence-based suggestions about where to focus intervention efforts, we need this kind of causal insight. DEMATEL has been successfully used in several educational research settings over the past few years. Its use in the study is a timely and important addition to the growing body of work aimed at making the study of language-learning problems in Malaysia more analytical.

2. Methodology

The DEMATEL method was used in this study. Between 1972 and 1976, the Science and Human Affairs Program at the Battelle Memorial Institute in Geneva developed the Decision-Making Trial and Evaluation Laboratory (DEMATEL) method to analyse complex problems worldwide [27]. The method then becomes a vital tool for decision-making using multiple criteria. With it, researchers learn how different factors affect one another through a complex system by using structural models and impact-relation maps [28]. Dematel is unique as it can turn qualitative evaluations into quantitative indices, showing how different aspects of a system rely on each other and how they affect one another [29]. It is different from the traditional analytical methods, which can detect the complex relationships and mutual effects that come from real-life decision-making situations. The method is important to find key factors and understand how they affect other parts of a system [30]. It is also flexible and strong enough to handle difficult decision-making [31].

2.1 DEMATEL Procedural Framework

The DEMATEL method uses a five-step process to turn expert opinions into structural matrices that show how things are related. The first step is to make a direct-relation matrix by asking experts to rate how much each pair of factors affects the other on a scale from 0 (no effect) to 4 (very high effect) [32]. The second step makes the direct-relation matrix normal by dividing each element by the largest row sum. This makes sure that all the numbers are in a normal range [33]. To find the total-relation matrix, the third step uses the formula $T = X(I - X)^{-1}$. In this equation, X is the normalised direct-relation matrix, and I is the identity matrix [34]. The fourth step shows the prominence and connection indices by adding the rows (D) and columns (R) of the total-relation matrix together.

The difference between D and R tells you if a factor is a cause (positive values) or an effect (negative values) [35]. The sum of D and R tells you how important each factor is in the system. The fifth step is to put these indices on a two-dimensional graph to make a causal diagram. On the horizontal axis, prominence is shown, and on the vertical axis, relation is shown. This shows the structural model in a way that makes it easier to plan strategies and make decisions [36].

Table 1

2.2 Step in DEMATEL

Step 1	Step 1: Generate the direct relation matrix To determine the model of the relationships among the n criteria, an $n \times n$ matrix is initially created. The element in each row of this matrix has an effect on the element in each column. If the opinions of more than one expert are used, all of them must fill out the matrix. The arithmetic mean of all the experts' opinions is used to make a direct relation matrix X. $X = \begin{bmatrix} x_{11} & x_{12} & \dots & x_{1n} \\ x_{21} & x_{22} & \dots & x_{2n} \\ \vdots & \vdots & \ddots & \vdots \\ x_{n1} & x_{n2} & \dots & x_{nn} \end{bmatrix}$
Step 2	Compute the normalized direct-relation matrix To normalise, just add up all the rows and columns of the matrix. k can stand for the biggest number in the row and column sums. To make things normal, divide each element of the direct-relation matrix by k. $k = \max(\max_j \sum_{i=1}^n x_{ij}, \max_i \sum_{j=1}^n x_{ij})$ $N = \frac{1}{k} X$
Step 3	Compute the total relation matrix Once the normalised matrix has been calculated, the fuzzy total-relation matrix can be computed as follows: $T = (N_1 + N_2 + \dots + N_k) \otimes \begin{bmatrix} 1 & 0 & \dots & 0 \\ 0 & 1 & \dots & 0 \\ \vdots & \vdots & \ddots & \vdots \\ 0 & 0 & \dots & 1 \end{bmatrix}$

	To put it another way, a $n \times n$ identity matrix is made first. Then, this identity matrix is taken away from the normalised matrix, and the matrix that is left over is flipped. To get the total relation matrix, the normalised matrix is multiplied by the matrix that comes out of it. $T = N \times I - N - 1$
Step 4	set the threshold value To figure out the internal relations matrix, you need to find the threshold value. Because of this, partial relations are ignored and the network relationship map (NRM) is drawn. The NRM only shows relations where the values in matrix T are higher than the threshold value. To find the threshold value for relations, all you need to do is find the average values of matrix T. Once the threshold intensity is established, all values in matrix T that fall below this threshold are assigned a value of zero, thereby disregarding the aforementioned causal relationship. In the study, the threshold value is equal to 1.838
Step 5	Final output and create a causal diagram In step 3, the next step is to find the total of each row and column of T. To find the sum of rows (D) and columns (R), do the following: $D = \sum_{j=1}^n T_{ij}$ $R = \sum_{i=1}^n T_{ij}$ Then, D and R can be used to figure out the values of D+R and D-R. D+R shows how important factor i is to the whole system, and D-R shows the net effects that factor i has on the system.

3. Results

Findings 1: The Average -Direct Relation

Table 2

The average direct-relation matrix is computed by averaging all expert input matrices

	Insufficient Vocabulary Knowledge	Mother Tongue Interference (L1 Interference)	Inadequate Grammar Instruction	Limited Reading Exposure	Low Motivation and Learner Attitude
Insufficient Vocabulary Knowledge	0.0000	2.0000	2.8000	2.4000	2.2000
Mother Tongue Interference (L1 Interference)	2.0000	0.0000	2.2000	1.0000	1.2000
Inadequate Grammar Instruction	2.8000	2.0000	0.0000	2.0000	2.0000
Limited Reading Exposure	2.8000	1.0000	2.0000	0.0000	2.4000
Low Motivation and Learner Attitude	2.0000	1.2000	2.0000	2.2000	0.0000

Table 2 shows the average direct-relation matrix shows how five important factors that affect language learning are thought to affect each other, according to a group of experts. Insufficient vocabulary knowledge has a moderate to strong effect on grammar instruction (2.8) and reading exposure (2.4). This means that gaps in vocabulary knowledge can affect other areas of learning as

well. Mother Tongue Interference has a limited effect, with the strongest effect on grammar instruction (2.2), which shows how L1 habits get in the way of learning the structure of the target language. Poor grammar instruction is a major factor that has a direct effect on vocabulary knowledge (2.8) among all the inter-factor relationships. It also has a moderate effect on reading and motivation. Limited Reading Exposure also has a big effect on vocabulary (2.8) and motivation (2.4), which shows that reading is a basic activity whose absence makes other problems worse. Low motivation and learner attitude are sometimes seen as background variables, but they still have a big impact on all the other factors, especially reading exposure (2.2) and grammar instruction (2.0). This shows that affective factors are closely linked to cognitive and instructional factors in the language learning process.

3.2 Findings 2: Normalized Direct-Relation Matrix (X)

Table 3

The matrix is normalized so that the maximum row or column sum equals 1

	Insufficient Vocabulary Knowledge	Mother Tongue Interference (L1 Interference)	Inadequate Grammar Instruction	Limited Reading Exposure	Low Motivation and Learner Attitude
Insufficient Vocabulary Knowledge	0.0000	0.2083	0.2917	0.2500	0.2292
Mother Tongue Interference (L1 Interference)	0.2083	0.0000	0.2292	0.1042	0.1250
Inadequate Grammar Instruction	0.2917	0.2083	0.0000	0.2083	0.2083
Limited Reading Exposure	0.2917	0.1042	0.2083	0.0000	0.2500
Low Motivation and Learner Attitude	0.2083	0.1250	0.2083	0.2292	0.0000

Table 3 shows the normalised direct-relation matrix shows that Inadequate Grammar Instruction and Limited Reading Exposure are the most important factors. They have the strongest direct effects on other variables, especially Insufficient Vocabulary Knowledge (0.2917 each). A lot of things affect Insufficient Vocabulary Knowledge, including Inadequate Grammar Instruction, Limited Reading Exposure, and Low Motivation. This suggests that it is more of a receiver than a driver in this system. Mother Tongue Interference has a moderate overall effect, but it has the lowest effect on others, which means it works somewhat on its own. Low Motivation and learner attitude have stable mid-range relationships with all factors (around 0.2083–0.2292), which means that it affects the system and are affected by it in a balanced way. Overall, the matrix shows that grammar instruction and reading exposure are the main causes of problems with writing in English, while vocabulary knowledge seems to be a key outcome variable on which many other factors come together.

3.3 Findings 3: TOTAL RELATION MATRIX (T)

Table 4

T = X(I – X)⁻¹ captures both direct and indirect influences between factors

	Insufficient Vocabulary Knowledge	Mother Tongue Interference (L1 Interference)	Inadequate Grammar Instruction	Limited Reading Exposure	Low Motivation and Learner Attitude
Insufficient Vocabulary Knowledge	1.2781	1.0660	1.4390	1.2721	1.2731
Mother Tongue Interference (L1 Interference)	1.1026	0.6576	1.0727	0.8788	0.9031
Inadequate Grammar Instruction	1.4393	1.0230	1.1532	1.1909	1.2040
Limited Reading Exposure	1.3867	0.9094	1.2736	0.9798	1.1917
Low Motivation and Learner Attitude	1.2301	0.8508	1.1743	1.0767	0.9021

Table 4, The DEMATEL analysis shows that Insufficient Vocabulary Knowledge is the most important cause in the system. This is because it has the strongest single link to Inadequate Grammar Instruction (1.4390) and sends the most total influence to all other factors. Inadequate Grammar Instruction also has a strong effect, especially when it comes to vocabulary (1.4393). This suggests that these two factors work together to make each other stronger. Mother Tongue Interference (L1) is the most affected or "effect" factor. It gets more influence than it gives, so it is a net receiver in the causal chain. Limited Reading Exposure and Low Motivation & Learner Attitude are in the middle; they affect and are affected by the other factors, but they have a much weaker effect on L1 Interference. The matrix shows that improving vocabulary and grammar instruction would have the biggest effect on the whole system because it would help all the other problems that make it hard to learn English.

3.4 Findings 4: The Analysis Result

Table 5

Threshold Value: 1.1479 | Total Experts: 5 | Total Factors: 5

Factor	R (Influence)	C (Influenced)	R+C (Prominence)	R-C (Relation)
Insufficient Vocabulary Knowledge	6.3284	6.4367	12.7651	-0.1084
Mother Tongue Interference (L1 Interference)	4.6147	4.5069	9.1216	0.1079
Inadequate Grammar Instruction	6.0103	6.1128	12.1231	-0.1024
Limited Reading Exposure	5.7413	5.3983	11.1396	0.3430

Low Motivation and Learner Attitude	5.2339	5.4740	10.7080	-0.2401
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The analysis in table 5 shows that the threshold value is 1.1479. Limited Reading Exposure and Mother Tongue Interference are the main causes of the other problems. This means that these two factors are what cause and affect the other problems. When students don't read enough, they don't naturally pick up vocabulary, grammar rules, and sentence structures. Also, when they rely too much on their first language while learning a second one, it makes it harder for them to use new language rules correctly. Because of these two upstream causes, Insufficient Vocabulary Knowledge, Inadequate Grammar Instruction, and Low Motivation and Learner Attitude come up as effects. This means that they are the results of the problem, not the causes. Limited Reading Exposure has the most impact on the whole table, which means that if there is one area that needs to be improved, it is making sure that students read more and more often. This is because improvements in this area are most likely to have a positive effect on all the other factors.

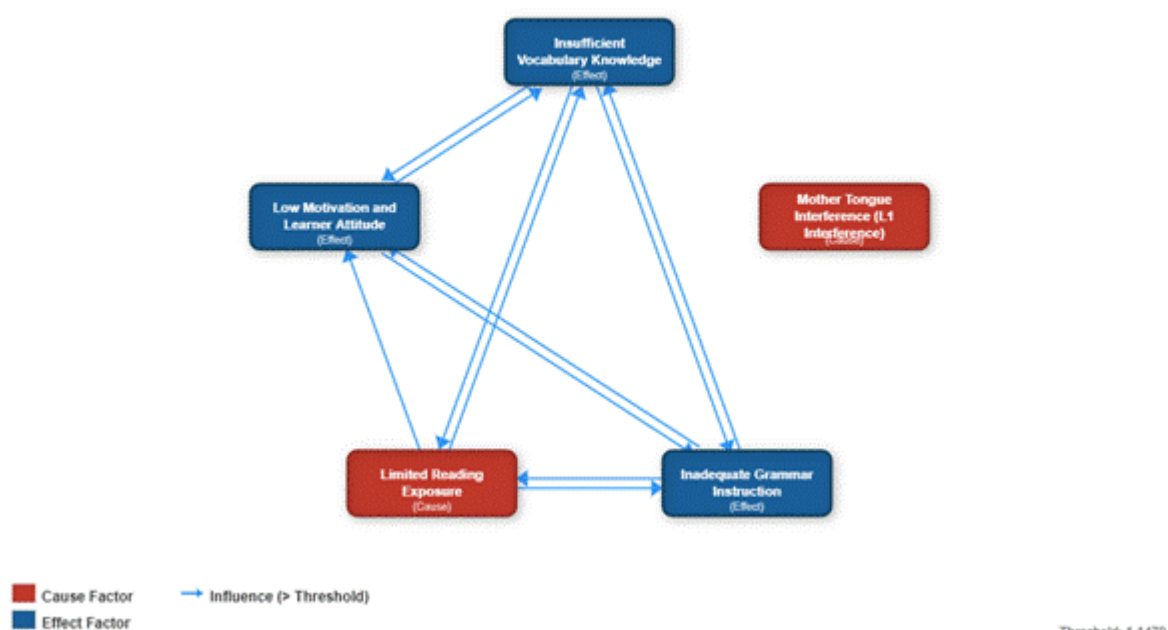
3.5 Findings 5 : Cause and Effect Relationship

Table 6

Factors with $R-C > 0$ are classified as CAUSE (influencer); $R-C < 0$ are classified as EFFECT (receiver)

Criteria	ri	ci	ri + ci	ri - ci	Cause / Effect
Insufficient Vocabulary Knowledge	6.33	6.44	12.77	-0.11	Effect
Mother Tongue Interference (L1 Interference)	4.61	4.51	9.12	0.11	Cause
Inadequate Grammar Instruction	6.01	6.11	12.12	-0.10	Effect
Limited Reading Exposure	5.74	5.40	11.14	0.34	Cause
Low Motivation and Learner Attitude	5.23	5.47	10.71	-0.24	Effect

DEMATEL Influence Diagram



The DEMATEL analysis in table 6 presents the five factors that make parts of speech hard into two groups: causes and effects, based on their R-C values. Cause factors have positive R-C values, which means they have more of an effect on other factors than they receive. Effect factors have negative R-C values, which means they are more affected by other variables in the system. Mother Tongue Interference (R-C = 0.1079) and Limited Reading Exposure (R-C = 0.3430) were found to be cause factors in this study. Limited Reading Exposure was the most important cause because it had the highest positive R-C value. This means that not reading enough directly causes and makes other writing problems worse. On the other hand, Insufficient Vocabulary Knowledge (R-C = -0.1084), Inadequate Grammar Instruction (R-C = -0.1024), and Low Motivation and Learner Attitude (R-C = -0.2401) were found to be effect factors. This means that these are mostly effects that are shaped by how other factors in the system interact with each other. Low Motivation and Learner Attitude were found to be the most reactive. Insufficient Vocabulary Knowledge (12.7651) and Inadequate Grammar Instruction (12.1231) had the highest values in terms of prominence (R+C). This means that they are effective factors, but they are still the most important and influential parts of the overall causal network of writing problems.

4. Conclusion

The study utilised the DEMATEL method to analyse the causal relationships among five factors contributing to difficulties in understanding the parts of speech. The results collectively illustrate a coherent and interconnected framework of how these challenges function as a system rather than in isolation. The analysis identified Limited Reading Exposure and Mother Tongue Interference as the root causes, with Limited Reading Exposure carrying the strongest causal weight. This means that when learners do not read written texts consistently and in a meaningful way, it makes every other problem they have worse. Mother Tongue Interference exacerbates this issue by reverting learners to their first language instincts, hindering their capacity to assimilate target language grammar and expression organically. Insufficient Vocabulary Knowledge, Inadequate Grammar Instruction, and Low Motivation and Learner Attitude were identified as contributing factors; they do not cause the problem but are instead influenced and exacerbated by the aforementioned causes, with Low Motivation being the most responsive of the three, indicating that students lose the desire to engage primarily due to the deterioration of foundational learning conditions. Importantly, Vocabulary Knowledge and Grammar Instruction, while being effects, had the highest prominence scores. This means they are at the very center of the problem network and are touched by almost everything else in the system. This reinforces the idea that they are not the starting point of the problem, but they are where the damage is most clearly felt. In terms of implications, these findings carry significant weight for teachers, school administrators, and policymakers alike for classroom teachers, the priority should be embedding regular, structured reading activities into daily instruction, not as a supplementary task but as a core component of the writing curriculum, since improving reading habits is the single most impactful lever available; for curriculum designers and school leaders, there is a clear need to develop strategies that help learners consciously navigate the boundary between their first language and English, through contrastive analysis activities, explicit awareness-raising, and writing tasks that gradually wean students off L1 dependency; and for policymakers, the study signals that investing in reading infrastructure whether through better library access, reading programs, or teacher training in literacy will yield far broader returns than targeting vocabulary or grammar in isolation, since those factors, however visible and testable, are ultimately downstream consequences of deeper systemic gaps that this study has now helped to map.

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