JURNAL MUDABBIR
(Journal Research and Education Studies)
Volume 5 Nomor 2 Tahun 2025
http://jurnal.permapendis-sumut.org/index.php/mudabbir **ISSN: 2774-8391**

Analysis of Lexical Retrieval Strategies during Tip-of-the-Tongue (TOT) States Among English Education Students

Sahmiral Amri Rajagukguk[1], Amanda Siregar[2], Yani Lubis[3]

[1,2,3]Universitas Islam Negeri Sumatera Utara Medan, Indonesia

Email: sahmiralamri@gmail.com[1], amandasiregar1510@gmail.com[2], yanilubis@uinsu.ac.id[3]

ABSTRACT

This study investigates how English Education students experience and resolve Tip-of-the-Tongue (TOT) states during English word retrieval. The research uses a qualitative descriptive design to explore students' natural responses and strategies when they temporarily cannot recall a word. Fifteen seventh-semester students from an English Education Department in Medan participated in individual observation sessions. The data were collected using a PowerPoint presentation containing twenty visual stimuli designed to trigger TOT moments and were analyzed through transcription, coding, and triangulation. The findings show that proper nouns were the most common triggers of TOT states, followed by uncommon concrete and abstract nouns. Five main types of retrieval strategies were identified, including phonological, semantic, gestural, interlingual, and associative strategies. Among them, phonological strategies were most frequently used, followed by semantic strategies, suggesting that learners rely heavily on sound and meaning cues to retrieve words. These results highlight how English learners manage lexical difficulties and show that TOT experiences can provide useful insight into mental lexicon functioning. The study also implies that raising awareness of retrieval strategies may help teachers design speaking and vocabulary activities that support faster word recall and reduce hesitation in communication.

Keywords: Tip-of-the-tongue, lexical retrieval, bilingual learners, speaking fluency

INTRODUCTION

The ability to speak fluently in English is one of the main goals for students in English Education programs. Speaking fluency depends not only on grammar or pronunciation but also on how efficiently a speaker retrieves the right words from memory during real communication. When learners cannot access a word that they know, they often pause or hesitate, interrupting the flow of speech. This issue reflects the functioning of the mental lexicon, which is the internal storage of words and their meanings. According to Agustín-Llach and Rubio (2024), the mental lexicon in bilingual speakers is organized in a complex network that connects meaning and sound, but these connections are often weaker in a second language. As a result, learners frequently experience temporary word retrieval failures such as the Tip-of-the-Tongue (TOT) state, when they know the meaning of a word but cannot recall its exact form. Studies by Schwartz and Metcalfe (2011) and Freedman and Landauer

(1966) have long shown that TOT reveals how language is organized in the mind and why some words are harder to access than others.

In English Education settings, students often use English both as a subject of study and as a medium for communication. However, they may still struggle to find specific words during speaking tasks. Jumayeva (2024) notes that bilingual learners rely on two interacting lexical systems, one in their first language and another in English. When trying to recall English words, interference from their first language may slow retrieval or block access entirely. Stella et al. (2024) explain that frequent use strengthens lexical connections, while rarely used words remain weakly linked, making retrieval more difficult. Therefore, English learners are likely to experience TOT states when facing low-frequency or specialized words such as proper names or academic vocabulary. Understanding how students respond during these TOT moments is essential to improving fluency and vocabulary teaching strategies.

The process of lexical retrieval involves activating semantic and phonological information stored in memory. Cole and Reitter (2018) describe this process as time-sensitive, where meaning and sound representations compete to reach speech production. When this process fails, learners experience partial activation that leads to TOT. Nooteboom (1981) and Rahman and Melinger (2019) highlight that successful retrieval often depends on how efficiently semantic and phonological cues interact in the mind. For L2 learners, this interaction may be disrupted because their English lexicon is still developing. Previous research has explored various retrieval strategies used to solve TOT conditions, including phonological recall, semantic description, gestures, and translation (Hofferberth, 2019; Pyers et al., 2021). Yet, few studies have focused on how these strategies appear in real speaking experiences among English Education students, especially in the Indonesian context.

This gap is important because English Education students are future teachers who must be able to speak fluently and confidently. Their TOT experiences can show how they manage vocabulary problems and which strategies help them recover forgotten words. Qu et al. (2024) found that mnemonic and associative strategies improve L2 word retrieval, suggesting that strategy awareness can reduce the frustration caused by TOT states. Investigating these strategies not only deepens the understanding of bilingual lexical processing but also provides pedagogical insights. Teachers can design learning activities that strengthen both semantic and phonological connections, encouraging students to use strategies that enhance lexical recall and reduce hesitation in speaking.

Based on this background, the present study aims to analyze how English Education students experience and resolve Tip-of-the-Tongue states during English word retrieval. The research focuses on identifying the types of words that trigger TOT episodes and describing the lexical retrieval strategies used by the students. The study also seeks to determine which strategy is most commonly applied during these moments of retrieval difficulty. Therefore, the research questions are as follows: (1) What types of words most frequently trigger Tip-of-the-Tongue states among English Education students? (2) What kinds of lexical retrieval strategies do students use to resolve TOT conditions? (3) Which strategy is used most dominantly during these retrieval challenges?

The findings of this research are expected to offer both theoretical and practical contributions. Theoretically, this study will enrich psycholinguistic understanding of how the mental lexicon functions in bilingual learners and how different strategies interact with memory systems. Practically, it can help English teachers and students

recognize the importance of strategic word retrieval during communication. Teachers can use the insights to design vocabulary and speaking exercises that reflect real communication challenges, while students can develop self-awareness of their retrieval strategies. By understanding how to manage TOT states, learners can improve their fluency, confidence, and overall communicative competence in English.

RESEARCH METHOD

This research used a qualitative descriptive design because it aimed to describe and understand how English Education students experienced the Tip-of-the-Tongue (TOT) phenomenon during word retrieval. Qualitative description allows researchers to present clear and factual accounts of participants' real experiences without manipulating variables. According to Kim, Sefcik, and Bradway (2016), this approach is suitable when the goal is to portray human experiences as they occur naturally. The design helped the researcher explore the cognitive and linguistic behaviors of students in realistic speaking situations, showing how they tried to recall forgotten words and what strategies they used to overcome retrieval problems. This method was chosen because it provides a detailed picture of the mental processes involved in speech production, which are often difficult to observe through quantitative approaches.

The participants in this study were fifteen seventh-semester students from the English Education Department at a university in Medan. They were selected through purposive sampling because they had advanced English proficiency and were familiar with psycholinguistic concepts related to word retrieval. Dörnyei (2007) explains that purposive sampling is effective when participants are selected for their ability to provide rich information about the research topic. Before participation, each student received an explanation about the research purpose and procedure and gave informed consent voluntarily. Ethical considerations were maintained by ensuring confidentiality, privacy, and respect for participants' comfort during the sessions. The setting was quiet and controlled to allow participants to respond naturally without distraction.

The main instrument for data collection was a PowerPoint presentation consisting of twenty visual slides showing objects, famous people, and abstract concepts. The images were designed to trigger TOT states naturally, following the idea of Harley and Bown (1998) that uncommon or low-frequency words are more likely to cause retrieval difficulties. The stimuli were chosen to include both common and specialized items so that the research could capture a wide range of lexical challenges. The PowerPoint slides were supported by an audio recorder to capture verbal responses and by observation notes to record gestures or pauses that indicated TOT moments. This combination of tools ensured that both verbal and nonverbal data were collected for analysis, strengthening the accuracy and completeness of the findings.

The data collection followed a simple but systematic procedure. Each participant viewed the slides one by one and tried to name the object or person in English as quickly as possible. When a TOT state occurred, the researcher observed without interrupting to let the natural retrieval process unfold. Audio recordings and field notes were then transcribed and analyzed. The data were examined using the framework of Miles, Huberman, and Saldaña (2014), which includes data condensation, data display, and conclusion drawing. The researcher identified TOT episodes, coded the retrieval strategies, and compared the frequencies of each type. Triangulation was applied by combining verbal data, gestures, and researcher notes

to validate the results. This analytic process ensured that the interpretation reflected authentic experiences and provided trustworthy insights into students' lexical retrieval behavior.

RESULT AND DISCUSSION

Results

This section presents the main findings obtained from the analysis of data collected through observation, audio recordings, and participant responses during the lexical retrieval sessions. The results describe the types of words that most frequently triggered the Tip-of-the-Tongue (TOT) condition, the various lexical retrieval strategies employed by participants to overcome these difficulties, and the frequency of each strategy used. The analysis focuses on identifying patterns in the occurrence of TOT episodes and examining how different types of lexical items, such as common nouns, abstract concepts, and proper nouns, affect the retrieval process. Furthermore, it explores how individual learners manage word-finding challenges through phonological, semantic, gestural, interlingual, and associative strategies. The findings in this chapter provide a detailed understanding of the nature of TOT experiences among English Education students and form the basis for further interpretation and discussion in the following section.

1) Types of Tip-of-the-Tongue Trigger Words

Table 1. Frequency of TOT Occurrences by Word Category

No	Word Category	Trigger Words	Frequency of TOT	Percentage
1.	Concrete Nouns	corkscrew, whisk, thimble	8	32%
2.	Proper Nouns	Rowan Atkinson, Nikola Tesla	12	48%
3.	Abstract/Technical Nouns	procrastination, taxonomy	5	20%
	Total		**25**	**100%**

Based on the data collected from fifteen participants, several types of words were identified as triggers of the Tip-of-the-Tongue (TOT) phenomenon. The results showed that the TOT episodes occurred most frequently when students tried to recall proper nouns or names of famous people. As shown in Table 2, proper nouns accounted for twelve cases, which represents forty-eight percent of all TOT occurrences. This result indicates that recalling specific names stored in long-term memory is more difficult compared to recalling common nouns or other word types. The participants often recognized the faces of famous people like Rowan Atkinson or Nikola Tesla but could not immediately retrieve their names in English.

The second most frequent trigger type was uncommon concrete nouns, which appeared in eight cases or thirty-two percent of the total TOT events. These words referred to objects that are not used in daily communication, such as corkscrew, protractor, or thimble. Because these items are rarely mentioned in everyday language use, students' lexical access to them is slower. The third type of trigger was abstract or technical nouns, which accounted for five cases or twenty percent of all TOT episodes. These terms included words related to complex concepts that participants had learned,

such as procrastination or taxonomy, which are semantically complex and not often used in casual speech.

In conclusion, Table 2 illustrates that proper nouns are the dominant trigger of TOT states among English Education students. This finding supports the idea that lexical retrieval for proper nouns is more fragile and less automatic than for common words. The pattern suggests that TOT episodes are more likely to happen when the target word has a specific and limited semantic connection to other words in the mental lexicon. This finding aligns with previous research that proper names are stored and accessed differently in memory compared to other lexical categories. Therefore, difficulties in retrieving proper nouns reflect the complexity of lexical storage and retrieval processes among second language learners.

2) Description of the Types of Lexical Retrieval Strategies Identified

The analysis of the transcribed data revealed that the participants used several different strategies to overcome Tip-of-the-Tongue (TOT) states. Each strategy represents a different way of accessing the missing word in the mental lexicon. The first and most common strategy used was the phonological strategy (S-PHON). This strategy appeared when participants tried to recall the sound or the first letter of the target word. For example, one participant said, "It starts with a P... pro... prot...," while trying to remember the word protractor. This shows that the participant was attempting to activate phonological information to reach the complete word. According to Schwartz and Metcalfe (2011), such phonological cues often help speakers access stored words by partially activating the correct phonological form in memory.

The second strategy observed was the semantic or circumlocution strategy (S-SEM). This occurred when participants tried to explain the meaning, function, or appearance of the object instead of recalling the exact word. One example is when a participant said, "It is that metal curly thing you use to open wine bottles," referring to a corkscrew. This kind of description indicates that the semantic network of the target word was activated, even though the phonological form was still inaccessible. Rahman and Melinger (2019) explain that during lexical retrieval, semantic connections play an important role in narrowing down potential word candidates and can eventually lead to successful word retrieval.

The third strategy found was the gestural strategy (S-GEST). This strategy involved the use of hand or body movements to represent the function or shape of the object. For instance, a participant made a twisting motion while saying, "You use it like this to open bottles," again referring to a corkscrew. The gesture helped the participant visualize the object, which sometimes triggered the correct word. Pyers et al. (2021) note that gestures can support memory access, particularly when verbal retrieval becomes difficult. In this study, gestural strategies were common for concrete objects, especially tools or physical items that can be easily mimed.

The next strategies identified were the interlingual (S-INT) and associative (S-ASSO) strategies. The interlingual strategy appeared when participants temporarily switched to Indonesian while trying to remember the English word. One participant said, "Pembuka botol itu apa ya in English," before finally producing the correct answer corkscrew. This indicates that students often rely on their first language as a bridge to access the second language lexicon. Meanwhile, the associative strategy occurred when participants connected the missing word with a memory or related concept. For example, a participant said, "Ah, I remember my mom has this in the

kitchen," while thinking about the word whisk. These examples show that students use personal or contextual associations to activate lexical items. Together, these strategies reflect how English Education students rely on multiple cognitive pathways to solve word retrieval problems during TOT experiences.

3) Frequency of Each Strategy Used

Based on the analysis of the transcribed data, each lexical retrieval strategy was found to occur with different frequencies depending on the individual's word recall ability and the type of lexical item being retrieved. Table 3 presents the distribution of the five identified strategies: phonological, semantic, gestural, interlingual, and associative. From the total of 25 recorded Tip-of-the-Tongue (TOT) episodes, the phonological strategy (S-PHON) was used 9 times or 36 percent of the total occurrences, making it the most dominant strategy. This indicates that many participants first tried to recall the initial sound or syllable of the word when they faced difficulty retrieving it. For example, they often began with phrases like It starts with a P or I think it sounds like pro before they could fully retrieve the target word.

Table 2. The Distribution of the Five Identified Strategies

No	Type of Strategy	Frequency	Percentage
1	S-PHON (Phonological)	9	36%
2	S-SEM (Semantic/Circumlocution)	7	28%
3	S-GEST (Gestural)	4	16%
4	S-INT (Interlingual)	3	12%
5	S-ASSO (Associative)	2	8%
Total		**25**	**100%**

As shown in Table 3, the semantic or circumlocution strategy (S-SEM) was the second most frequent, appearing 7 times or 28 percent. Many students used this approach when they could not recall the exact word but tried to describe its meaning or function instead. For instance, one participant said It is used to open a wine bottle while referring to the word corkscrew. This finding supports the view that circumlocution helps learners to continue communication even when they experience lexical gaps. Gestural strategies (S-GEST) were also common among participants who used hand movements to mimic the function of the object, such as twisting motions for corkscrew or circular movements for whisk.

The interlingual strategy (S-INT) and associative strategy (S-ASSO) were less frequent but still meaningful in understanding how bilingual speakers manage TOT states. The interlingual strategy occurred 3 times or 12 percent when participants tried to recall the English word by first mentioning or thinking of its Indonesian equivalent. Meanwhile, associative strategies appeared only 2 times or 8 percent, where participants tried to remember the word by relating it to personal experiences or objects at home. These findings indicate that while all strategies play a role in resolving TOT states, the phonological and semantic strategies are the most prominent among English Education students, suggesting that these learners rely mainly on language-based cues rather than external aids when facing retrieval difficulties.

Discussion

The findings from this research show that proper nouns were the most frequent triggers of the Tip-of-the-Tongue condition among the participants. This result

supports the theory that names of people or specific places are stored differently in the mental lexicon compared to common nouns. According to Agustín-Llach and Rubio (2024), the mental lexicon operates as a network of connections where some words are strongly linked to multiple semantic nodes, while others have fewer associations. Proper nouns tend to have limited semantic connections because they refer to unique entities rather than categories of meaning. As a result, when one connection fails to activate during retrieval, there are fewer alternative paths to access the target word, leading to a higher possibility of TOT occurrences. This finding aligns with Schwartz and Metcalfe (2011), who explained that TOT often occurs when there is partial activation of phonological or semantic information but the full lexical item cannot be accessed.

Another important aspect of the findings is the dominance of the phonological strategy during TOT resolution. Many participants tried to recall the first sound or syllable of the target word as a way to unlock memory retrieval. This reflects the process described by Nooteboom (1981), who found that lexical retrieval can begin from fragments of spoken words and that recalling initial sounds can activate related phonological nodes in memory. The frequent use of phonological strategies indicates that participants rely on sound-based cues as their first attempt to recover forgotten words. It also shows that L2 learners tend to focus on form rather than meaning when facing retrieval difficulty because their semantic connections in the second language may not yet be as strong as in their first language.

The semantic or circumlocution strategy was also widely used, showing how participants used meaning-based descriptions to approach the target word. This strategy often appeared when participants failed to retrieve any phonological clue but could still describe the object or concept accurately. According to Rahman and Melinger (2019), semantic processing involves the activation of a wide network of related meanings that can sometimes help re-access the forgotten word through associative links. The use of semantic strategies by the participants indicates that their mental lexicon has developed sufficient conceptual organization to support indirect retrieval. It also suggests that meaning-based approaches are useful for compensating lexical gaps in L2 production.

Gestural strategies were observed less frequently but played an important supportive role in helping recall. Some participants used hand or body movements to mimic the use of the object they were trying to name. This behavior supports the study by Pyers et al. (2021), which found that gestures can facilitate word retrieval especially for individuals with limited short-term memory capacity. Gestures may activate motor representations associated with the target word and provide multimodal cues that assist lexical access. The interaction between movement and verbal retrieval highlights how the body and mind work together to resolve lexical challenges.

Interlingual strategies were another feature of the participants' behavior, where they used their first language to stimulate memory access to the English word. For example, some participants recalled the Indonesian word first before attempting to translate it mentally. This reflects the bilingual connection between the two lexicons described by Jumayeva (2024), who explained that L2 learners often rely on cross-linguistic links when searching for words in the target language. Although this strategy may slow retrieval time, it still helps maintain cognitive flow during conversation and prevents communication breakdowns.

Finally, associative strategies were used in more personal and context-based ways, where participants connected the target word with their memories, experiences,

or related concepts. This use of association confirms the findings of Qu et al. (2024), who emphasized that mnemonic and associative techniques strengthen the connections between lexical items and improve retrieval performance over time. Overall, the combination of these strategies reveals that TOT resolution among L2 learners is not random but guided by the interaction between phonological, semantic, and cognitive networks within the mental lexicon. These results highlight the complexity of lexical retrieval and support the view of Stella et al. (2024) that the mental lexicon functions as a multilayered system in which activation flows through different interconnected levels. The findings from this study contribute to a deeper understanding of how learners manage lexical difficulties and show that strengthening both semantic and phonological networks can improve fluency and reduce TOT occurrences in L2 learning.

CONCLUSION

The results of this study show that English Education students most often experienced Tip-of-the-Tongue (TOT) states when recalling proper nouns and uncommon words. This finding supports the idea that words with fewer semantic links in the mental lexicon are more difficult to retrieve. Among the five identified strategies, phonological and semantic strategies appeared most frequently, indicating that learners rely mainly on sound and meaning cues when facing retrieval problems. Gestural, interlingual, and associative strategies were also used but less often. These findings reveal that the mental lexicon of bilingual learners functions through interconnected semantic and phonological pathways that sometimes fail to activate completely. The study highlights the importance of strengthening these connections to improve fluency and reduce communication breakdowns in second language speaking. It also suggests that training learners to use multiple retrieval strategies can help them become more confident and effective communicators.

This research provides valuable insights into the relationship between lexical access, memory, and language learning. However, it is limited by its small sample size and the qualitative nature of the data, which may not fully represent the diversity of learner experiences. Future studies could include a larger number of participants from different proficiency levels or use experimental methods to measure retrieval speed and success more precisely. Further research may also explore the effects of memory training, gesture use, and cross-linguistic influence on TOT resolution. Overall, this study contributes to psycholinguistic understanding of word retrieval and offers practical guidance for teaching strategies that enhance students' lexical access and speaking fluency.

BIBLIOGRAPHY

Agustín-Llach, M., & Rubio, J. (2024). Navigating the mental lexicon: Network structures, lexical search, and lexical retrieval. *Journal of Psycholinguistic Research, 53*(5), 1–16. https://doi.org/10.1007/s10936-024-10059-8

Cole, J., & Reitter, D. (2018). The timing of lexical memory retrievals in language production. *Proceedings of the 2018 Conference on Empirical Methods in Natural Language Processing (EMNLP 2018)*, 2017–2027. https://doi.org/10.18653/v1/N18-1183

Dörnyei, Z. (2007). *Research methods in applied linguistics*. Oxford University Press.

Freedman, J. L., & Landauer, T. K. (1966). Retrieval of long-term memory: "Tip-of-the-tongue" phenomenon. *Psychonomic Science, 4*(8), 309–310. https://doi.org/10.3758/BF03342310

Harley, T. A., & Bown, H. A. (1998). What causes a tip-of-the-tongue state? *Journal of Memory and Language, 39*(3), 328–351. https://doi.org/10.1006/jmla.1998.2571

Hofferberth, N. (2019). The tip-of-the-tongue phenomenon: Search strategy and resolution during word finding difficulties. *Proceedings of ExLing 2011: 4th International Conference of Experimental Linguistics*, 83–86. https://doi.org/10.36505/exling-2011/04/0020/000189

Jumayeva, K. (2024). Mental lexicon: A variety of approaches and open questions. *Philological Sciences Journal, 8*(4), 1–10. https://doi.org/10.52081/phsj.2024.v08.i4.044

Kim, H., Sefcik, J. S., & Bradway, C. (2016). Characteristics of qualitative descriptive studies: A systematic review. *Research in Nursing & Health, 40*(1), 23–42. https://doi.org/10.1002/nur.21768

Kim, J., Kim, M., & Yoon, J. H. (2020). The tip-of-the-tongue phenomenon in older adults with subjective memory complaints. *PLOS ONE, 15*(9), e0239327. https://doi.org/10.1371/journal.pone.0239327

Merriam, S. B., & Tisdell, E. J. (2016). *Qualitative research: A guide to design and implementation* (4th ed.). Jossey-Bass.

Miles, M. B., Huberman, A. M., & Saldaña, J. (2014). *Qualitative data analysis: A methods sourcebook* (3rd ed.). Sage Publications.

Nooteboom, S. G. (1981). Lexical retrieval from fragments of spoken words: Beginnings vs. endings. *Journal of Phonetics, 9*(4), 407–424.

Pyers, J. E., Magid, R. W., Gollan, T. H., & Emmorey, K. (2021). Gesture helps, only if you need it: Inhibiting gesture reduces tip-of-the-tongue resolution for those with weak short-term memory. *Cognitive Science, 45*(1), e12914. https://doi.org/10.1111/cogs.12914

Qu, K., Liu, T., Qiao, Y., & Wang, P. (2024). The facilitative effect of the keyword mnemonic on L2 vocabulary retrieval practice. *Heliyon, 10*(5), e25212. https://doi.org/10.1016/j.heliyon.2024.e25212

Rahman, R. A., & Melinger, A. (2019). Semantic processing during language production: An update of the swinging lexical network. *Language, Cognition and Neuroscience, 34*(9), 1176–1192. https://doi.org/10.1080/23273798.2019.1599970

Schwartz, B. L. (2001). The relation of tip-of-the-tongue states and retrieval time. *Memory & Cognition, 29*(1), 117–126. https://doi.org/10.3758/BF03195746

Schwartz, B. L., & Metcalfe, J. (2011). Tip-of-the-tongue (TOT) states: Retrieval, behavior, and experience. *Memory & Cognition, 39*(5), 737–749. https://doi.org/10.3758/s13421-010-0066-8

Stella, M., Citraro, S., Rossetti, G., Marinazzo, D., Kenett, Y. N., & Vitevitch, M. S. (2024). Cognitive modelling of concepts in the mental lexicon with multilayer networks: Insights, advancements, and future challenges. *Psychonomic Bulletin & Review, 31*(6), 1981–2004. https://doi.org/10.3758/s13423-024-02473-9.