

THE USE OF FILLER WORDS AS A COGNITIVE STRATEGY IN ACADEMIC PRESENTATION

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Abstract

Academic presentations pose significant cognitive challenges for EFL students, often triggering the production of filler words such as "uh", "um", or "ini". While traditional views often categorize these markers as mere signs of disfluency or nervousness, recent studies suggest they serve strategic communicative functions. This study aims to investigate the use of filler words as a cognitive strategy by Al-Azhar Indonesia University students and lecturers during oral presentations, specifically analyzing their types, functions, and underlying causes based on Levelt (1989) Speech Production Model. Employing a qualitative descriptive design, data were collected through direct observation and semi-structured interviews with five undergraduate students and two lecturers. The thematic analysis reveals that unlexicalized fillers (e.g., "E", "Em") are predominant, primarily functioning as 'Thinking Pauses' to manage high cognitive load during the conceptualization stage. Furthermore, the findings distinguish two specific contexts beyond general planning difficulties: 'Lexical Retrieval' struggles (e.g., using "Ini" as a placeholder for forgotten words) and 'Speech Style' (idiolect), where fillers appear as habitual patterns rather than cognitive failures. These results challenge the perception of fillers as solely negative errors, demonstrating that they are essential psycholinguistic tools for maintaining speech fluency and holding the communicative floor in high-pressure academic settings.

Keywords: *Filler Words, Cognitive Strategy, Academic Presentation, Speech Production, Psycholinguistics*

1. Introduction

Oral presentations in academic settings pose significant challenges for English as a Foreign Language (EFL) students, often demanding high cognitive effort to balance content mastery and linguistic accuracy. This pressure frequently triggers speaking anxiety, which disrupts speech fluency. Cahyo et al. (2025) highlight that nervousness is a primary factor driving students and lecturers to produce filler words during oral presentations, serving as an immediate coping mechanism for speech delays. Consequently, students often resort to spontaneous vocalizations such as "uh", "um", or "you know" to maintain their turn in the conversation while processing their next utterance.

Traditionally, the excessive use of these markers is viewed negatively in academic contexts. Nurrahmi et al. (2021) emphasize that filler words are often perceived as signs of

hesitation or lack of preparation, which can distract the audience and reduce the speaker's credibility. Audiences may struggle to comprehend the core message when the speech contains too many disfluencies, leading to a negative evaluation of the presenter's competence. This stigma forces students to view fillers solely as errors to be eliminated rather than communicative tools to be managed.

Prior to this psycholinguistic focus, scholars have extensively investigated filler words through various lenses, ranging from sociolinguistic implications (Fruehwald, 2016; Pamolango, 2016) to their correlation with demographic factors like gender Ruschy (2024) and their prevalence in microteaching contexts Adini et al. (2021). However, recent developments in psycholinguistics present a conflicting and more nuanced view regarding the function and dominance of fillers. Yulpia (2025) argues that unlexicalized fillers (e.g., "em", "uh") are predominant among students and function primarily as 'time-creating' devices to maintain social interaction during pauses. In contrast, Efendi et al. (2024) discovered that lexicalized fillers (e.g., "well", "so") were more dominant (60.93%) in their study, functioning significantly as politeness markers and mitigation strategies rather than just hesitation markers. This discrepancy in findings whether fillers are mere symptoms of nervousness or sophisticated politeness strategies, indicates a gap in understanding the specific cognitive mechanisms behind these choices.

To address this gap, this study situates the phenomenon within Levelt (1989) Model of Speech Production to analyze not just *what* fillers are used, but *why* they appear at specific cognitive stages. Unlike previous studies that focus heavily on frequency, this research aims to distinguish between fillers used as cognitive strategies (to manage conceptualization load), those triggered by lexical retrieval failures (Tip-of-the-Tongue), and those appearing as habitual speech styles (idiolects). By understanding these distinctions, the study seeks to provide a comprehensive psycholinguistic perspective on student disfluencies.

Theoretically, this research contributes to the psycholinguistic literature by expanding Levelt (1989) Speech Production Model within the specific context of Indonesian EFL learners. It offers a nuanced classification that differentiates between fillers as *cognitive necessity* versus fillers as *socio-pragmatic habits*, a distinction often overlooked in previous general studies. Practically, the findings offer pedagogical implications for academic speaking assessments. By understanding the strategic function of fillers, lecturers can distinguish between silence caused by lack of preparation and pauses used for complex cognitive planning, leading to fairer assessment rubrics. Furthermore, for students, raising awareness of these strategies can

transform filler usage from a source of anxiety into a controlled tool for maintaining fluency and buying processing time during high-stakes presentations.

2. Methodology

This study employs a qualitative descriptive approach to investigate the cognitive mechanisms behind filler word usage. This design was chosen because it allows for a comprehensive investigation of naturalistic behavior in academic settings, focusing on describing the phenomenon as it occurs in real-time without manipulating the variables. By prioritizing natural setting observation, the study captures the authentic psychological processes of students as they navigate the cognitive demands of English oral presentations.

The participants of this study were seven academic speakers at a university in Indonesia, consisting of five undergraduate students (four males and one female) and two male lecturers. The participants were selected using a purposive sampling technique. The selection criteria prioritized individuals who acted as presenters during the observation period in an academic speaking course setting. This mixed composition was intentionally chosen to capture a diverse range of cognitive strategies across different levels of proficiency and academic hierarchy, comparing how novice speakers (students) and expert speakers (lecturers) manage speech production. For instance, the inclusion of lecturers (e.g., Participant 5) allows the study to investigate whether filler usage in high-proficiency speakers stems from different cognitive causes (such as specific lexical retrieval) compared to students who might struggle more with general formulation. To maintain research ethics and privacy, all participants are referred to by pseudonyms (P1 to P7).

Data collection was conducted in two sequential phases to ensure the depth and validity of the findings. First, the researcher performed non-participant observation by attending classroom presentations as a passive observer. Audio recordings were taken using high-fidelity recording devices to capture every utterance, pause, and filler word clearly, while field notes were simultaneously taken to document non-verbal cues (such as eye gaze and gestures) that accompanied the filler words. Following the presentations, semi-structured interviews were conducted with the participants. These interviews utilized a "Stimulated Recall" technique, where participants listened to their own recordings and explained their thought processes during specific filler occurrences, helping to confirm whether a filler was a result of nervousness, habit, or cognitive planning.

The collected data were analyzed using thematic analysis as proposed by Braun & Clarke

(2006). This framework was chosen for its flexibility in identifying patterns across a dataset. The analysis process began with familiarization, where the researcher transcribed the audio recordings verbatim, including all hesitation markers, and read the transcripts repeatedly. Subsequently, initial codes were generated by tagging specific fillers based on their immediate context. These codes were then grouped into potential themes based on Levelt’s speech production stages (Conceptualization vs. Formulation). The themes were reviewed against the interview data to ensure they accurately reflected the speakers' cognitive experiences before being defined into final categories: Thinking Pause, Maintaining Tempo, Lexical Retrieval, and Speech Style.

3. Result

This section presents the empirical data obtained from the classroom observations and stimulated recall interviews conducted with the seven participants. The data focuses on identifying the types of filler words produced, their frequency of occurrence, and the specific context in which they appeared during the academic presentations. As outlined in the methodology, the contexts were categorized based on the cognitive functions served by the fillers, ranging from planning strategies to habitual speech patterns. Table 1 below details the distribution of filler usage among the participants, including specific examples and the identified underlying contexts.

Table 1. Participant Observation Data

No	Name	Filler	Frequency	Example	Context
1.	P1 (Male Student 1)	E, Jadi, Ini, Apa	17x (Ee: 11, jadi: 3, ini: 2, apa: 1)	“Jadi contohnya kayak ee....”	Thinking Pause, Maintaining Tempo
2.	P2 (Male Student 2)	Ee, Apa	20x (Ee: 18, apa: 2)	“Ee metodologi yang saya pakai...”	Thinking Pause
3.	P3 (Male Student 3)	Ee, Apa	14x (Ee: 12, apa: 2)	“Ee lalu secara semantik menjelaskan...”	Thinking Pause, Maintaining Tempo
4.	P4 (Female Student 1)	Ee	8x (Ee: 8)	“Dan akhirnya ee...”	Thinking Pause
5.	P5 (Male Lecturer 1)	Ini	5x (ini: 5)	“Ya gak ini....”	Lexical Retrieval
6.	P6 (Male Student 4)	Ini, Karena, Jadi	28x (Ini: 5, E: 20, karena: 2, jadi: 1)	“Jadi warganet menyimpulkan ee... bahwa”	Thinking Pause, Maintaining Tempo

7.	P7 (Male Lecturer 2)	Ee, Em	26x (Ee: 10, Em: 16)	“Jeleknya adalah emm... ini membutuhkan...”	Maintaining Tempo, Speech Style
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Sumber: Data diolah, 2026

As illustrated in Table 1, the observation data reveals significant variability in both the frequency and types of filler words employed by the seven participants. The frequency of filler usage ranged from a low of 5 occurrences to a high of 28 occurrences within the observed presentation timeframe. Participant 6 recorded the highest frequency (28x), utilizing a mix of lexicalized fillers ("Ini", "Karena", "Jadi") and unlexicalized fillers ("Ee"). This high frequency was predominantly associated with "Thinking Pauses," indicating a heavy cognitive load during the formulation of complex arguments. Similarly, Participant 7 (Male Lecturer 2) exhibited a high frequency (26x), but unlike P6, he relied almost exclusively on unlexicalized markers ("Ee", "Em"), suggesting a habitual speech pattern or idiolect rather than mere hesitation.

In contrast, Participant 5 (Male Lecturer 1) demonstrated the lowest frequency (5x). Notably, his filler usage was restricted to a single specific lexical item, "Ini" (e.g., "Ya gak ini..."), which served a distinct function of "Lexical Retrieval" or searching for a specific term, rather than maintaining tempo. Meanwhile, the student participants (P1, P2, P3, and P4) showed a moderate range of filler usage (8x–20x), with "Ee" and "Apa" being the most common forms used to bridge pauses during conceptual planning. Overall, unlexicalized fillers ("E/Em") emerged as the most dominant type across the dataset, appearing in the speech of six out of seven participants.

Having established the frequency and distribution of filler words in the findings, it is crucial to move beyond mere quantification and interpret the underlying reasons for these vocalizations. The variations in filler usage ranging from the high frequency observed in Participant 6 to the lexical specificity of Participant 5, suggest that fillers serve multifaceted roles in academic speaking. To deconstruct these roles, this study analyzes the data through the lens of psycholinguistic mechanisms, focusing on how cognitive pressures during speech production manifest as verbal signals. Before discussing the specific contexts (Thinking Pause, Maintaining Tempo, etc.), it is necessary to outline the theoretical basis that governs these cognitive processes.

This analysis is grounded in Levelt (1989) Model of Speech Production, which posits that speech is generated through three recursive stages: *conceptualization* (planning content), *formulation* (choosing words/grammar), and *articulation* (speaking). Within this framework,

filler words are not random errors but are active symptoms of the monitoring process. When a speaker encounters trouble in the *conceptualization* or *formulation* stage such as forgetting a word or restructuring a complex argument, the brain sends a signal to delay articulation.

4. Discussion

Recent studies reinforce this classical model. Böttcher & Zellers (2024) argue that fillers like "uh" and "um" serve as explicit "delay signals" that allow speakers to buy processing time without ceding the communicative floor. Similarly, Clark & Fox Tree (2002) propose that these markers carry communicative meaning, signaling to the audience that "I am currently planning, please wait." By synthesizing Levelt's cognitive model with these modern interpretations, this study categorizes the participants' filler usage into four distinct cognitive contexts: *Thinking Pause*, *Maintaining Tempo*, *Lexical Retrieval*, and *Speech Style*.

Thinking Pause

This context refers to a condition where the speaker pauses momentarily to process abstract ideas into linguistic forms. Within Levelt's (1989) framework, this typically occurs during the *Conceptualization* or *Formulation* stages of speech production. When the pre-verbal message is not yet ready for articulation, the monitoring system triggers a "delay signal" in the form of filler words (such as "E" or "Apa"). Recent studies by Böttcher & Zellers (2024) reaffirm that these vocalizations serve a crucial cognitive function: they allow speakers to "buy time" for planning without signaling the end of their turn, effectively holding the floor while the brain retrieves the necessary information.

In the observed data, this function was the most dominant, particularly evident in the speech of Participant 6 and Participant 2. Participant 6, who recorded the highest frequency of fillers (28x), predominantly used "E" at the beginning of complex clauses (e.g., "Jadi warganet menyimpulkan ee... bahwa"). This pattern indicates a high Cognitive Load; the speaker was attempting to summarize external information (warganet's opinion) while simultaneously structuring the sentence grammatically. The fillers acted as a buffer, preventing total silence while his cognitive resources were fully engaged in macro-planning the argument.

These findings align with Yulpia (2025), who found that the primary function of unlexicalized fillers ("uh", "um") among EFL students is "time-creating" during cognitive pauses. However, this study extends the discussion by contrasting it with Efendi et al. (2024), who argued that fillers mainly serve as politeness markers. The data here suggests that for novice speakers under pressure, the *cognitive necessity* to pause outweighs the *social function*

of politeness. Thus, "Thinking Pause" remains the fundamental cause of disfluency in high-stakes academic presentations.

Maintaining Tempo (Fluency)

This context relates to the speaker's effort to maintain the rhythmic flow of speech and avoid "dead air" (awkward silence). Clark & Fox Tree (2002) identify fillers as essential *discourse markers* that signal the audience that the speaker has not finished their turn, despite a temporary delay in production. Unlike thinking pauses which focus on internal processing, maintaining tempo serves an interpersonal function: keeping the communicative channel open and fluid to prevent interruptions from the audience.

This strategy was frequently employed by Participant 1 and Participant 3. For instance, P1 used a combination of "Jadi... ee..." not because he lost his train of thought, but to bridge the transition between two slides. The fillers filled the gap while he shifted his attention, ensuring the presentation did not feel "stiff." Similarly, P3 used fillers to pace his explanation, giving the audience time to digest the information without stopping the flow of his voice.

The use of fillers to maintain tempo corroborates the findings of Cahyo et al. (2025), who noted that students often use fillers to overcome nervousness and keep talking continuously. However, this research offers a new perspective by distinguishing this function from mere anxiety. While Cahyo et al. attributes it to nervousness, the participants in this study (especially P1) appeared controlled and deliberate, suggesting that fillers for maintaining tempo can be a sign of communicative competence rather than just a coping mechanism for anxiety.

Lexical Retrieval (Selecting the Next Word)

Lexical retrieval refers to the specific cognitive process of accessing a target word from mental memory. When this process fails or is delayed, speakers experience the "Tip-of-the-Tongue" phenomenon described by Brown & McNeill (1966). In this context, fillers act as placeholders (e.g., "what is it...") that occupy the syntactic slot while the speaker searches for the precise lexical label.

This context was uniquely observed in Participant 5. Unlike students who used "Ee" for general planning, P5 specifically used the lexical filler "Ini" (e.g., "Ya gak ini...") when he clearly had the concept but struggled to find the exact term. The repetition of "ini" served as a self-cueing strategy to trigger the retrieval of the forgotten word. This indicates that even expert speakers (lecturers) rely on fillers, but their usage is more targeted towards specific vocabulary

deficits rather than general sentence planning.

This finding provides significant new information compared to Ranti et al. (2023), who focused heavily on unlexicalized fillers like "em" and "hmm". By identifying "Ini" as a lexical retrieval tool, this study highlights a specific behavior in Indonesian EFL speakers who use L1 (native language) particles as placeholders within English or mixed-language presentations. This specific strategy of using "demonstrative pronouns" as fillers is rarely discussed in general EFL filler studies, marking a specific contribution of this research.

Speech Style (Idiolect)

Speech style, or idiolect, refers to the distinctive speech patterns unique to an individual. Hughes et al. (2016) argue that the rate and type of filled pauses are highly consistent within individuals, serving as a "voice fingerprint" regardless of the situation. In this context, fillers are not triggered by immediate cognitive difficulty but are habitual markers of the speaker's personal communication style.

This phenomenon was clearly demonstrated by Participant 7. Despite being fluent and articulate, P7 recorded a very high frequency of "Ee" and "Em" (26x). Observations revealed that these fillers appeared rhythmically at the end of sentences or phrases, even when he was not thinking hard. This suggests that for P7, fillers have become automatized, a habit of speech rather than a necessity for planning.

This observation strengthens the argument by Cahyo et al. (2025) that "habit" is a major factor alongside nervousness in filler production. Furthermore, it aligns with Ishihara & Kinoshita (2010), who categorized fillers as speaker classification features. While most classroom research treats high filler frequency as a sign of low proficiency, this study counters that assumption by showing that a fluent speaker (P7) can still have high filler frequency due to idiolect, warning lecturers against using filler count as the sole metric for grading fluency.

In summary, the detailed analysis of the four contexts demonstrates that filler words in academic presentations are multifaceted linguistic tools rather than mere symptoms of disfluency. While the dominance of "Thinking Pauses" and "Maintaining Tempo" confirms that the primary driver of filler usage is the high cognitive load imposed by the dual task of conceptualizing complex academic content and formulating it in a foreign language, the data reveals distinct variations. The specific identification of "Lexical Retrieval" (as seen in Participant 5) and "Speech Style" (as seen in Participant 7) adds a critical layer of nuance: high filler frequency does not always equate to low proficiency or confusion. Instead, it can

represent a specific search for precision (searching for the right term) or a personalized rhythmic strategy (idiolect). Ultimately, these findings collectively argue that students actively, albeit often unconsciously, employ fillers as a cognitive compensation strategy to bridge the gap between their mental processing speed and speech production requirements.

5. Conclusion

This study concludes that the use of filler words in academic presentations is a fundamental feature of speech production that functions primarily as a Cognitive Strategy rather than a mere disfluency. Consistent with Levelt's (1989) model, the data demonstrates that speakers, ranging from novice students to expert lecturers, actively utilize fillers to manage the high cognitive load imposed by the dual demands of conceptualizing ideas and formulating them in real-time. Specifically, the findings reveal that while "Thinking Pauses" and "Maintaining Tempo" remain the most dominant functions, critical nuances exist; for instance, "Lexical Retrieval" strategies (using *Ini* as a placeholder) and "Speech Style" (habitual idiolect) prove that high filler frequency does not always signal low proficiency but can reflect a precise search for vocabulary or a personal stylistic rhythm. However, this study is limited by its small sample size restricted to a single English Education program and its reliance on auditory observation. Therefore, future research is recommended to expand the scope to diverse academic disciplines and incorporate objective measurement tools, such as eye-tracking technology, to provide deeper empirical evidence on the correlation between cognitive pause duration and filler selection.

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