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# Revisiting the speech error phenomenon: A thematic narrative review

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## Abstract

This review examines how researchers have approached speech errors across a wide range of studies, drawing on work from databases such as Scopus, Web of Science, and Google Scholar. Rather than beginning with fixed categories, patterns were allowed to emerge gradually through close engagement with the literature. The analysis brought to light six recurring themes: (1) speech errors are explainable, often reflecting identifiable processes; (2) they are traceable and identifiable across different contexts; (3) they are largely unavoidable, yet speakers frequently manage to repair them in interaction; (4) they serve as valuable evidence for understanding how language functions in real-time; (5) they are consistently interpreted through established theoretical frameworks; and (6) they have remained a subject of continued interest, with recent studies revisiting and extending earlier insights. Taken together, these themes point to speech errors as systematic, shaped by cognitive processes, and far from random or trivial. Beyond showing how language is processed and produced, they offer practical insights, particularly for English Language Teaching (ELT). At the same time, the review highlights areas where further research is needed, especially on lesser-studied languages, multilingual contexts, and the potential of emerging technologies for speech analysis. By bringing these strands together, the review offers a more connected view of speech errors and their relevance to language education, psycholinguistics, and communication studies.

**Keywords:** Speech Errors; Thematic Analysis; Cognitive Processes; Language Learning; English Language Teaching (ELT)

## 1. Introduction

Speech stands as one of the most essential tools for human connection, long recognized as both a cognitive process and a social act. Even so, despite the ease with which people often speak, slips, lapses, and unintended utterances still find their way into everyday conversations. These errors are not just minor glitches, they have drawn the attention of linguists and psycholinguists for decades, offering insight into how language is planned and produced (Dell, 1986; Fromkin, 1971). Early studies treated them as curiosities, but over time, patterns began to emerge that challenged earlier ideas about how smooth or automatic speech truly is (Cutler, 1982; Levelt, 1989).

From the beginning, researchers have come to realize that speech errors are not just harmless slips or random stumbles. These moments, once brushed aside as simple mistakes, have started to reveal something far more meaningful. They offer glimpses into how the mind works while speaking (Dell, 1995; Garnham et al., 1982). The work of Fromkin (1973) and Levelt (1989) helped shift that understanding, showing in detail how speech unfolds step by step, from the spark of an idea to the shaping of words, and finally, to the act of speaking. Since then, that perspective has only deepened. Studies have drawn connections not only to cognitive challenges like mental load (Ferreira & Pashler, 2002) and working memory (Acheson & MacDonald, 2009), but also to the social and emotional pressures that quietly influence how people choose their words and how those words come out (Motley et al., 1982). What all of this points to is something clear and compelling: speech errors rarely just happen. They tend to follow patterns—patterns that reflect

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how people are thinking, what they are feeling, and the language resources they have in the moment (Bock & Levelt, 1994; Poulisse, 1999).

Despite this progress, the field has remained somewhat fragmented. Much of the existing research tends to gravitate towards isolated aspects of speech errors, such as phonological slips (Shattuck-Hufnagel, 1979), lexical retrieval failures (Goldrick & Rapp, 2007), or disruptions in syntax (Ferreira, 1991). These studies, while undeniably valuable, have often remained as separate threads, offering insights into specific dimensions of the phenomenon without fully weaving them together. What is notably absent is a synthesis that captures the broader thematic patterns that have surfaced across decades of research. Scholars such as Berg (2006) have already pointed to this gap, urging the need for a more integrative perspective, especially as contemporary methodologies and interdisciplinary approaches continue to reshape the landscape.

As the field continues to grow and shift, the need for a review that weaves together the existing literature through a thematic lens has become increasingly apparent. Such an effort would help bring clarity to a body of work that has become broad and, at times, fragmented, while also drawing attention to the recurring patterns, open questions, and evolving directions that continue to shape research on speech errors. This review takes on that task by drawing together key insights, following the development of major theoretical ideas, and highlighting the central themes that have emerged across studies. In doing so, it offers a clearer and more thoughtful way of seeing speech errors, as something layered, meaningful, and worth noticing. It also opens the way for future work to explore how thinking, language, communication, and learning are all closely connected.

## 2. Material and methods

This study used a narrative literature review and thematic analysis to examine and bring together existing research on speech errors. This approach was chosen to allow themes to emerge naturally from the literature rather than imposing pre-existing categories. Relevant studies were gathered from major academic databases such as Scopus, Web of Science, Google Scholar, and other peer-reviewed platforms. The search focused on keywords like speech errors, slips of the tongue, language production, and speech monitoring, covering both first and second language contexts. Only studies that were peer-reviewed and directly related to speech error research were included.

The collected studies were reviewed, summarized, and compared systematically. Thematic analysis was conducted without predetermined themes. Instead, recurring ideas, patterns, and insights emerged inductively during the reading and comparison of the literature. To guide the analysis, the following reflective questions were used: *What consistent patterns about speech errors are reported? How are speech errors categorized and explained? What factors influence the occurrence and repair of speech errors? What implications do speech errors have for language teaching and learning?* Through this process, key themes were identified, representing the most common and significant findings from the literature. These themes became the foundation for organizing the discussion and synthesizing insights across studies.

## 3. Results and discussion

A careful review of the literature led to the emergence of six key themes that capture the essential characteristics of the speech error phenomenon. These themes are as follows: (1) *speech errors are explainable*, (2) *speech errors are traceable and identifiable*, (3) *speech errors are unavoidable but repairable,* (4) *speech errors serve as linguistic evidence,* (5) *speech errors are theory-supported,* and (6) *speech errors are recently studied*. The following subsections present each of these themes in detail.

### 3.1. Speech errors are explainable

Although speech errors are often dismissed as random slips or signs of momentary distraction, research has consistently shown that these errors are, in fact, explainable. They reveal patterns that are anything but accidental. Instead, speech errors have been recognized as systematic reflections of the underlying mechanisms involved in language production (Dell, 1986; Fromkin, 1971). Early on, Fromkin (1971) highlighted that speech errors often follow regularities, whether through sound exchanges, word substitutions, or grammatical distortions. These were not chaotic blunders but manifestations of how the mind organizes and retrieves linguistic information.

As the field of psycholinguistics evolved, researchers moved beyond merely cataloging errors and started to interpret them as windows into the mind's inner workings. Dell's (1986) influential spreading activation model showed that errors frequently occur due to competition between simultaneously activated linguistic units. When a speaker is preparing to utter a word, phonological, morphological, and syntactic units are activated in parallel, and sometimes, due

to their activation strength or proximity, the wrong unit slips into the utterance. This model explained common errors such as anticipations (where a later sound is used too early) and perseverations (where an earlier sound reappears later), illustrating that errors are not random noise but side-effects of an efficient but fallible processing system.

Levelt (1989) built on this line of thinking by showing that speech production unfolds in stages — conceptualization, formulation, and articulation, and that errors could be traced to specific points within this sequence. For instance, when a speaker says *"cat"* instead of *"dog,"* it is often due to competition during word selection. When sounds swap places, as in saying *"leading list"* for *"reading list,"* the issue arises later during phonological encoding. In both cases, the mistake is not arbitrary but reflects where things went off track in the production system.

Other studies have pointed to the same conclusion. Shattuck-Hufnagel (1979) found that even when speakers make phonological errors, they tend to stick to permissible syllable patterns. Bock and Levelt (1994) showed that grammatical structures tend to hold together, even when something goes wrong elsewhere. Together, these findings have made it hard to see speech errors as random slips; they seem to reflect how deeply structured language production really is.

Later research linked speech errors not only to language processes but to broader cognitive factors. Acheson and MacDonald (2009) showed that speakers with lower working memory capacity made more errors, especially when dealing with complex sentences. Ferreira and Pashler (2002) found that time pressure increased the likelihood of slips, suggesting that cognitive load, not just linguistic difficulty, plays a role. What these studies make clear is that errors often emerge when cognitive resources are stretched.

By now, it is hard to see speech errors as mere accidents. They have become one of the most direct ways researchers can observe how language unfolds in real time. They show that producing language is complex, layered, and sometimes fragile, but also adaptable, with speakers constantly monitoring and adjusting as they go.

### 3.2. Speech errors are traceable and identifiable

What makes speech errors particularly valuable to researchers is not simply that they occur, but that they are highly traceable and identifiable. They do not emerge randomly. Instead, they tend to follow specific patterns and can be classified according to the linguistic units they affect, the cognitive stages where they occur, or the mechanisms that produce them (Fromkin, 1973; Levelt, 1989).

Foundational studies first demonstrated that speech errors could be systematically categorized. Fromkin (1973) and Garrett (1975) were among the earliest to outline typologies based on observable patterns. For example, Fromkin (1980) and Shattuck-Hufnagel and Garrett (1980) identified eight well-known types of tongue slips: anticipation, perseveration, exchange, blend, shift, substitution, addition, and deletion. These categories became essential for understanding that speech errors are not simply chaotic, but that they tend to involve the rearrangement, omission, or intrusion of specific phonological or lexical units. What is particularly telling about these patterns is that they tend to obey internal linguistic rules. Garrett (1975) noted that errors usually involve linguistic units occupying the same position (e.g., onsets swap with onsets), substitute similar phonetic units (e.g., vowels with vowels, consonants with consonants), and often maintain the language's phonological constraints. Even in errors, speakers unconsciously conform to the structural rules of the language they speak (Carroll, 2008).

Beyond these classic categories, scholars have offered even more refined classifications. For instance, James (2013) suggested that errors could be grouped into true and false errors, explicit and implicit errors, and semantic, textual, or pragmatic errors. This classification is valuable, particularly when speech errors are examined not only in spontaneous speech but also in written or planned speech contexts. Similarly, Zhao (2013) introduced the notion of positive and negative errors, while Wang (2014) divided errors into extralingual and intralingual types, capturing the influence of external factors (e.g., social or psychological stress) and internal language system factors (e.g., grammar or lexicon) on speech performance.

Speech errors have also been classified according to the level of linguistic unit involved. Elandeef and Hamdan (2021) pointed out that errors can occur at various linguistic levels, phonological features, phonemes, syllables, morphemes, words, phrases, or even entire sentences. Such classifications help researchers trace errors back to the specific units within the speaker's mental representation of language that are affected.

Equally important is the mechanism-based classification of speech errors. Field (2004) and Guslyakova et al. (2019) distinguished between selection errors and assemblage errors. In selection errors, the speaker retrieves the wrong lexical item, as when someone says *"knife"* instead of *"fork."* These errors often stem from challenges in the mental

lexicon, where semantically or phonologically related words compete for selection (Field, 2004). Assemblage errors, on the other hand, occur when the speaker has successfully retrieved the correct word but fails in assembling its phonological or morphological form, resulting in outputs like *"caterpillar"* being mistakenly produced as *"patter-killer."* Such errors are informative because they reveal how speakers construct syntactic structures, apply inflectional morphology, or manage phonological sequencing under time or cognitive pressure.

Knight (2012) further noted that errors are often categorized by both the mechanism and the linguistic unit involved, reflecting how multi-layered the speech production process is. Sugiarthi (2013) added that the majority of slips tend to fall into two overarching categories: selection slips, including semantic slips (e.g., Freudian slips), malapropisms, and blends, and assembling slips, which often deal with phonological or syntactic arrangement errors.

Altogether, the literature illustrates that speech errors are not only observable but also highly classifiable. Whether examined from the perspective of linguistic units, production stages, or error mechanisms, researchers have consistently shown that speech errors leave behind identifiable traces. Their systematic nature has made them one of the most informative phenomena in psycholinguistics, allowing scholars to peer into the invisible workings of the human mind during communication.

### 3.3. Speech errors are unavoidable but repairable

Despite the remarkable complexity and efficiency of human speech, errors in spoken language are, to a large extent, unavoidable. No speaker is immune from making occasional slips, substitutions, or hesitations. However, what is equally important is that speakers often recognize these errors and engage in spontaneous repair strategies, reflecting the self-monitoring capacity embedded in the speech production system (Levelt, 1983).

The inevitability of speech errors has been a recurring theme in psycholinguistic research. According to Levelt (1989), speech production is an intricate process involving multiple stages, each vulnerable to interference or overload. From conceptualization to formulation and finally to articulation, speakers continuously manage cognitive demands while attempting to communicate effectively. Given the pressure to produce fluent, meaningful, and grammatically sound utterances within milliseconds, occasional errors are a natural consequence. Dell (1986) highlighted that the architecture of the production system itself, where multiple linguistic units are activated simultaneously, makes errors almost inevitable, especially under conditions of cognitive load, time pressure, or emotional arousal.

Bock and Levelt (1994) further emphasized that although speech errors are common, they are usually small and local, rarely resulting in complete communication breakdowns. More importantly, speakers demonstrate an impressive ability to detect and correct errors as they occur. This process, known as speech monitoring, allows individuals to detect mismatches between the intended and actual output (Levelt, 1983; Postma, 2000). Monitoring is believed to occur both internally (before the error is articulated) and externally (after the error is spoken), explaining why speakers often interrupt themselves mid-utterance to repair errors even before listeners notice.

The literature also reveals that repair strategies vary depending on the type and severity of the error. Schegloff et al., (1977) introduced the notion of self-initiated self-repair, where speakers identify and correct their own errors without external prompts. Such repairs are not limited to casual conversation; they are also present in formal speech, teaching, public speaking, and professional discourse (Fox & Jasperson, 1996). Repairs may involve simple repetition, substitution of the intended word, or restructuring of the entire utterance. These repair strategies often go unnoticed by listeners, highlighting how seamlessly speakers manage communication even when errors arise.

Ferreira and Bailey (2004) further demonstrated that speakers tend to prioritize meaning over grammatical accuracy during real-time repairs. In other words, the goal of repair is often to restore communicative intent rather than strictly correct all linguistic forms. This finding aligns with everyday observations where speakers sometimes accept less-than-perfect utterances as long as the intended message is successfully conveyed.

Acheson and MacDonald (2009), along with Ferreira and Pashler (2002), observed that speakers tend to make and repair more errors when working under heavy cognitive demands. However, even under pressure, speakers often manage to monitor and correct their speech, suggesting that repair is not an added skill but an integral part of speaking.

Speech errors, then, may be inevitable given the complexity of language production, but they are rarely overwhelming. Speakers rely on both conscious and unconscious strategies to manage them, allowing communication to continue smoothly. For researchers, these errors are less about failure and more about the flexibility and adaptability that define how humans use language.

### 3.4. Speech errors serve as linguistic evidence

Speech errors have never been just slips or signs of clumsiness. For decades, they have offered researchers a rare glimpse into how speech is actually produced, not in theory, but as it happens. These small breakdowns, often dismissed by non-specialists, have consistently pointed to the hidden architecture behind everyday language use. Far from being marginal, they have become essential to understanding how people retrieve, organize, and articulate their thoughts (Dell, 1986; Fromkin, 1973; Levelt, 1989).

This line of inquiry owes much to the work of Fromkin (1973), who was among the first to systematically document and make sense of speech errors. What she noticed was simple but profound: errors were not random. They followed patterns. Sounds tended to swap with sounds, words with words, and most surprisingly, these slips often respected the very grammatical rules they seemed to violate. Fromkin's classification of errors, from anticipations to blends, offered early proof that the process of producing speech is layered and organized. Rather than treating errors as noise, Fromkin showed that they could be read as traces of how the mind was putting speech together, step by step.

Garrett (1980) took this observation further, proposing that errors provide direct evidence of how speech production unfolds across different stages. Garrett's model suggested that before words find their final phonological form, speakers have already sketched out the syntactic structure of a sentence. This explained why, for instance, word exchanges often stay within the same grammatical category. What appeared, on the surface, as a jumble of words turned out to be tightly constrained. Garrett's model was later supported by studies like Bock and Levelt (1994), who observed that even in the middle of an error, speakers rarely violate basic syntactic rules, suggesting that much of the sentence plan is already in place before the slip occurs.

Errors have also provided evidence at the level of sound. Shattuck-Hufnagel (1979) showed that even when speakers stumble, they do so within the boundaries of their phonological system. Consonants rarely trade places with vowels, and syllable structures tend to remain intact. These patterns revealed that speakers, consciously or not, respect phonotactic rules, which made clear that errors are not simply the result of mechanical failures of the vocal tract, but emerge from earlier stages of planning.

Dell and Reich (1981) added to this picture by showing that errors were especially likely when words or sounds shared phonological or semantic similarities. Their work gave weight to the idea of spreading activation, which is the notion that related linguistic units compete for selection during planning. Errors, in this view, occur not because the system is failing, but because it is managing a complex field of partially activated alternatives.

The role of errors in concept building did not stop there. Levelt et al. (1999) made speech errors a central part of their *"Blueprint for the Speaker,"* a model that described speech production as progressing through stages: from conceptualization, to syntactic and morphological structuring, to phonological encoding, and finally to articulation. The fact that specific types of errors could be reliably linked to specific stages gave the model its strength. Substituting one word for another, for example, often pointed to trouble during lexical selection, while sound rearrangements tended to arise later, during phonological encoding.

Beyond helping researchers map the stages of speaking, errors have also contributed to understanding why individuals differ in how often and in what ways they make mistakes. Acheson and MacDonald (2009) showed that working memory plays a role, especially when speakers handle syntactically complex sentences. Speakers with more limited working memory were simply more prone to error, highlighting how general cognitive resources intersect with linguistic processes.

Seen across decades of work, the case is clear. Speech errors are not noise in the system. They are part of the system. They surface the points where planning and execution occasionally fall out of sync, allowing researchers, and sometimes speakers themselves, to catch a glimpse of the machinery behind fluent speech. They continue to provide one of the most direct, and arguably most fascinating, sources of evidence about how language is processed and produced.

### 3.5. Speech errors are theory-supported

The study of speech errors has been central to how psycholinguists have come to understand the inner workings of speech production. From the early days of research, these so-called slips were never treated as meaningless accidents. Researchers noticed that the patterns were too systematic and consistent to be dismissed. Errors, it seemed, revealed the structure of the process itself, offering something that more controlled experiments sometimes struggled to capture.

One of the first to bring this idea into focus was Fromkin (1973). By paying attention to what speakers actually did when they stumbled, Fromkin showed that errors tend to follow recognizable patterns, often matching up with the underlying rules of the language. Errors did not arise at random; they could be traced back to particular points in the speech planning process. For Fromkin, this meant that speech production could no longer be seen as a single fluid act, but rather as a sequence of stages where different types of information, sounds, words, grammatical structures, came together, sometimes imperfectly.

This way of thinking found further support in the work of Garrett (1980), who offered a *model of sentence production* that accounted for these patterns. Garrett proposed that speakers first organize the structure of what they want to say before dealing with the sounds and words that will express it. The kinds of mistakes Garrett documented, for example, swapping two nouns but not a noun and a verb, made sense if sentence frames were put together before the actual words were slotted in. Rather than smooth, uninterrupted processing, Garrett's model suggested that speech planning unfolded in layers, with different stages vulnerable to different kinds of slips.

Later, Dell (1986) introduced the idea of *spreading activation*, which helped explain why certain types of errors occurred more often than others. According to Dell, when planning speech, speakers juggle many competing units, words, morphemes, sounds, all becoming partially active. Errors happen when a unit that is not intended becomes strong enough to slip through. The model could account for why words or sounds that are similar tend to be swapped more often, something Dell and Reich (1981) had already observed when examining naturally occurring errors.

Levelt (1989) developed this further, describing a *model of speech production* that broke the process down into clear stages: conceptualization, formulation, and articulation. What made Levelt's approach especially useful was how it allowed researchers to link particular types of errors to specific phases of planning. Substituting one word for another, for instance, might reflect trouble during lexical selection, whereas sound rearrangements are more likely to occur later, during phonological encoding. Together with Roelofs and Meyer (1998), Levelt expanded this work, showing how factors like time pressure or memory load could influence where and when errors surface.

Alongside these models of production, others turned their attention to how speakers manage their errors once they occur. Both Levelt (1983) and Postma (2000) focused on the monitoring processes that allow speakers to detect and sometimes repair errors, either silently before speaking or after the error has already been voiced. That speakers are often able to correct themselves mid-sentence without noticeable hesitation points to a monitoring system that is both rapid and flexible.

What has become clearer in more recent work is that speech errors cannot be understood purely as linguistic phenomena. Acheson and MacDonald (2009), for instance, found that working memory matters, not just in how often speech errors occur, but in the way those errors unfold. Their work adds something deeper to how language is understood, showing that the process of speaking is shaped not only by language itself, but by the broader mental systems that help people think, plan, and keep track of what they want to say.

The appeal of these models, taken together, is that they do not treat errors as mere noise. Instead, errors have been central to developing an account of speech production that is incremental, interactive, and constantly monitored. By looking closely at where and how speakers slip, researchers have been able to map, if only partially, the hidden processes that shape everyday speaking.

### 3.6. Speech errors are recently studied

Over the last several years, researchers have turned their attention again to speech errors, exploring them not only as curiosities but as clues to the processes that underlie language production. What used to be treated as small, peripheral slips has come to be seen as far more telling, offering insight into how people organize their thoughts, manage linguistic resources, and handle communication, sometimes under pressure. What makes this shift noticeable is not just the volume of new work, but the variety, studies now come from classrooms, speech labs, media contexts, and spontaneous everyday conversations.

In Japan, Fortuna (2025) looked closely at the kinds of errors made by EFL students and identified a wide range of patterns, from anticipation and substitution to more familiar cases of interference from the learners' native language. More than simply categorizing these, Fortuna pointed to their value for teachers, suggesting that drawing learners' attention to these patterns might help them develop strategies to monitor and repair their own speech. The point was not to eliminate errors altogether, which is an impossible task, but to help learners become more comfortable working through them.

A similar thought runs through the work of Honrado and Biray (2022) in the Philippines. By analyzing the spoken English of Grade 12 students through the lens of Dulay et al.'s (1982) taxonomy, they showed how persistent certain grammatical challenges are, especially when it comes to morphology and syntax. Zhu and Liu (2018) in China added to this by showing how error patterns, if properly analyzed, could do more than just document learner struggles; they could actually guide teachers in helping learners recognize these patterns themselves, encouraging self-awareness and, ideally, self-repair.

The connection between first language structures and second-language errors is a recurring theme across speech error research. Kovač's (2011) study of Croatian engineering students, for example, found that the persistent omission of articles in English could be traced to structural differences in Croatian, where articles are absent. Similar observations have been made in the Philippine context. Fontiveros-Malana (2018), examining the speech of Filipino learners, noted how first language interference contributes to recurring pronunciation and syntactic errors in spoken English. These errors, Fontiveros-Malana argues, are not merely transitional but can stabilize over time, especially if left uncorrected. Such findings highlight the way L1 influence can shape the development of learners' interlanguage, sometimes leading to fossilization, an outcome that many language teachers encounter in real classroom interactions.

Beyond studies focused on learners, researchers have turned to larger corpora and natural speech data to better understand how errors arise. Alderete (2020), drawing on the Simon Fraser University Speech Error Database (SFUSED) corpus, confirmed that phonological errors are often shaped by predictable factors like phonotactic constraints and frequency effects. This is hardly surprising to those familiar with earlier models like Dell's (1986) and Levelt's (1989), but Alderete's work showed how these patterns hold up in larger, more varied datasets. Han et al. (2019) provided a similar contribution by showing how Korean speakers make errors that are partly universal, yet partly shaped by the particularities of Korean itself. Naibaho et al. (2018) and Daud & Mustofa (2018) found comparable patterns in Indonesian EFL classrooms, where fluency demands sometimes seemed to push learners into making more substitution and deletion errors than might otherwise be expected.

Researchers have also followed speech errors out of the classroom and into public discourse. Paradewari and Bram (2020) documented how BBC news anchors, working under time constraints, were prone to anticipation and exchange errors. Abdulaal and Abuslema (2020) examined George W. Bush's speeches, showing how speech errors sometimes gave away more than the speaker intended, moments of stress, hesitation, or cognitive overload. Burford-Rice and Augoustinos (2018) explored how errors in political discourse, especially those involving race, often lead to public scrutiny, apology, and reinterpretation. Here, errors were not simply production glitches but socially charged events.

Some of the more recent work on speech errors has circled back to areas that have long been central to psycholinguistic research, especially morphology and articulation. Berg (2020), for example, noticed that German speakers seem far more likely to slip when dealing with inflection than with derivation, a finding that may not surprise those familiar with how productive German inflectional patterns can be. Mooshammer et al. (2019), working with tongue twisters, took a different route altogether. Rather than focusing on the errors themselves, they traced the tiny, often imperceptible articulatory adjustments speakers make when under pressure. What emerges from their study is a reminder that even the smallest shifts in pronunciation often have roots in deeper cognitive planning.

The topic of self-monitoring has remained just as engaging. Dell and Oppenheim (2015) and Nooteboom and Quené (2019, 2020) have both offered detailed accounts of how speakers catch themselves mid-sentence, sometimes correcting errors before they fully surface, other times adjusting after the fact. These studies complicate earlier views that monitoring is either automatic or deliberate. The reality appears to lie somewhere in between. Much seems to depend on how much attention the speaker is paying, how complex the task is, and how practiced the speech is. Sometimes repairs happen without much conscious thought; other times, speakers visibly slow down and rework what they are saying.

In parallel, newer tools have allowed researchers to observe aspects of speech production that would have been difficult to detect not so long ago. Goldrick et al. (2016) and Reddick (2016) have made use of ultrasound imaging and machine learning techniques to track subtle articulatory patterns, including variations that speakers themselves may not be aware of. These methods open the door to observations that were largely out of reach when researchers relied solely on auditory analysis or transcription.

What is striking, looking across this body of work, is how the focus has shifted. Researchers seem less interested in simply classifying errors and more concerned with what they reveal about how speakers manage language under pressure. What once seemed like background noise is now understood as a glimpse into the speaker's quiet effort to

hold intention and expression in balance, a process that turns out to be far more intricate and fragile than it may seem at first.

## 4. Emerging Directions for Future Inquiry and Exploration

Even after everything that has been uncovered about speech errors, there is still so much that is not yet understood. The research so far has offered real insight into where these errors come from, the patterns they tend to follow, and what they can tell people about how language and thought work together. However, many questions are still open, and the field continues to feel wide open, full of room for new ideas, unexpected connections, and a better understanding of how people use language in all its complexity.

One area that deserves more attention is the study of speech errors beyond the familiar terrain of major world languages. Much of what is currently known is based on English and a handful of other Indo-European languages. However, speakers of the world's many typologically diverse languages, those with rich morphology, tone systems, or writing systems unlike the alphabet, may reveal different patterns, or perhaps surprising similarities. Exploring speech errors in languages spoken across Africa, Southeast Asia, the Pacific, and indigenous communities could sharpen people's understanding of which aspects of speech production are universal and which are shaped by specific linguistic systems.

Another area that remains underexplored is the influence of social and cultural factors on speech errors and their repair. While psycholinguistic research has carefully documented cognitive mechanisms, much less is known about how identity, emotion, or social dynamics shape when errors occur and how speakers respond to them. Questions such as whether speakers from different cultural backgrounds monitor and correct errors differently, or how anxiety and social context affect error patterns, offer opportunities to connect this field more closely with sociolinguistics and pragmatics.

The second and foreign language learning context also presents questions that are still far from settled. While errors in learner speech have been widely noted, more could be said about how factors like proficiency, learning environment, and exposure shape the kinds of errors learners make. The growing interest in multilingualism, code-switching, and translanguaging opens further possibilities for understanding how speech errors work when speakers move between languages in everyday communication.

New technologies are also changing how speech errors can be studied. With the help of tools like speech recognition, artificial intelligence, and brain imaging, researchers are now able to examine errors with a level of detail that was hard to imagine in the past. These methods make it possible to look more closely not only at when and how errors happen, but also at what is happening cognitively as speakers notice and adjust their speech in real time.

Despite the progress made, questions remain about how research on speech errors can inform teaching, assessment, and clinical work. Teachers, therapists, and language professionals often have little concrete guidance on how to draw on these insights in their daily practice. Whether helping learners in classrooms, working with clients in therapy, or designing assessment tasks, practitioners would benefit from a clearer sense of how speech errors can be used as a tool for learning, rather than just as evidence of difficulty.

It is equally worth asking how the field itself might continue to grow. Work that brings together insights from linguistics, psychology, education, and technology seems especially promising. Speech errors have never been just slips; they have always pointed to the deeper processes involved in speaking, learning, and interacting. The task now is to keep pushing these questions further, making sure that research stays connected to the realities of learners and speakers in all their diversity.

## 5. Implications of the Speech Error Phenomenon for English Language Teaching (ELT)

The role of speech errors in English Language Teaching (ELT) goes well beyond their traditional treatment as simple mistakes to be corrected. Errors, in fact, offer teachers direct insight into how learners process and produce language under real communicative pressure. Far from being random, they reveal how learners plan, monitor, and adjust their speech, making them valuable not just for diagnosis but for shaping the learning process itself. Teachers who are attuned to these patterns are better positioned to recognize that errors often reflect the normal functioning of the speech production system, rather than mere carelessness.

Psycholinguistic research has long shown that speech errors tend to follow identifiable patterns, shaped by the mental processes involved in speech planning (Dell, 1986; Fromkin, 1973). Understanding these patterns can help teachers anticipate the types of errors learners are likely to make. Whether dealing with slips of the tongue, misorderings, or substitutions, teachers can use this knowledge to design activities that build learners' awareness of how language is organized in production. Targeted tasks, whether focusing on pronunciation, fluency, or self-monitoring, allow learners to notice how errors arise and how they might be repaired.

Just as important is the recognition that errors are not isolated incidents but are often traceable to specific linguistic or cognitive sources (Garrett, 1980; Shattuck-Hufnagel, 1979). For second-language learners, who may not always recognize why they make certain mistakes, teachers can play a critical role in helping them identify whether their difficulties stem from phonology, morphology, syntax, or discourse-level factors (Zhu & Liu, 2018). In multilingual classrooms especially, this kind of analysis becomes essential. Learners bring with them not only different first languages but also different ways of using language socially, which inevitably influences how errors manifest.

In addition to informing classroom practices, speech error research has clear implications for creating supportive learning environments. Mistakes are a source of anxiety for many learners, especially when errors are perceived as failures. However, if teachers actively model self-repair and openly treat errors as part of natural speech, learners are more likely to feel comfortable taking communicative risks (Levelt, 1989; Nooteboom & Quené, 2017). Techniques such as self-monitoring exercises, peer feedback, and reflective speaking tasks give learners the tools to notice and address their own errors, fostering both fluency and confidence.

Speech errors also have practical value beyond the classroom. They can inform assessment practices, where traditional methods often penalize learners for errors without distinguishing between random slips and systematic patterns related to language development. A more informed approach would recognize that some errors are developmental, and that the ability to repair or navigate around them is itself an indicator of communicative competence. Incorporating insights from speech error analysis into assessment could lead to more balanced evaluations of speaking ability, where the focus shifts from error counting to communicative effectiveness.

Recent work has made it increasingly clear that speech errors are shaped by much more than individual processing struggles. Learners' first languages, the ways they are used to speaking, and even the limits of memory all leave traces of the kinds of errors they make (Alderete, 2020; Fortuna, 2025; Han et al., 2019). In classrooms where students bring a variety of linguistic and cultural backgrounds, these influences often explain patterns that might otherwise be seen as random mistakes. For teachers, this calls for more than just correcting errors as they appear. It means paying attention to where the errors are coming from and adjusting teaching to better fit the learners' needs, especially when working with multilingual groups, where the variation is often more noticeable.

Seen this way, errors are not simply things to be fixed. They show learners actively trying to make language work, even if the results are rough. In teaching, the real work is not just about pointing out what went wrong, but about listening closely enough to hear what the learner was trying to say. That shift in perspective changes everything. It gives learners the space to notice their own voice, to take risks without fear of judgment, and to grow into their language with trust and confidence. In classrooms where mistakes are welcomed as part of the process, something important happens, learners stop chasing perfection and start focusing on connection and that, at its core, is what language learning is really about.

## 6. Conclusion and Synthesis

This review makes it clear that speech errors are not just small slip-ups; they carry meaning. They offer glimpses into how thinking, planning, and speaking come together in the moment, and they have quietly shaped the way researchers look at language production, especially in second-language learning. Over time, six themes have continued to resurface, each one showing that speech errors are not only something to study, but something that matters, something that speaks to how language is learned, used, and lived.

Speech errors are far from random. The literature consistently shows that they follow patterns closely tied to how speakers plan and produce language. These patterns are not only observable but can be traced across different layers of linguistic structure, making them accessible to systematic study. Errors, however, are not simply inevitable; they are part of the normal flow of speech, and speakers often detect and resolve them as they go, adjusting mid-utterance without disrupting communication entirely.

Over the years, these features of speech errors have provided researchers with a window into the inner workings of language. They have been central to shaping theories of speech production, with work by Dell, Fromkin, Garrett, Levelt, and others laying much of the foundation. More recently, studies have extended beyond experimental tasks, documenting speech errors in natural settings — second-language classrooms, media, and everyday conversation, where they continue to reveal how language is used in real time.

The research reviewed here points to a simple but significant conclusion: speech errors are systematic, informative, and inevitable. For language teaching, and especially for English Language Teaching or ELT, this matters. Rather than being treated as failures, errors deserve attention as signs of learners engaging actively with the language. They reflect not only challenges but also adaptation and growth. Even so, many questions remain. Less-explored languages, multilingual settings, and advances in technology for capturing and analyzing speech offer promising ground for future work.

## Compliance with ethical standards

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