

Fluency in Second Language Learning: A Conceptual Review of Proficiency and Language Anxiety

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ABSTRACT

Fluency has become an important focus in second language (L2) acquisition research because it is a strong indicator of oral proficiency. Alongside complexity and accuracy, fluency is widely used to assess communicative competence, with features such as speech rate, pausing, and self-repair serving as reliable measures. Previous studies consistently highlight fluency as a key predictor of proficiency, yet emotional factors, particularly foreign language anxiety, it can disrupt speech by increasing hesitation and slowing delivery. This conceptual paper reviews recent studies published between 2019 and 2025 to explore the role of fluency in L2 learning. It specifically aims to (1) present an overview of fluency in L2 learning, (2) examine fluency as a predictor of oral proficiency, and (3) analyze its relationship with language anxiety. The review emphasizes the multidimensional nature of fluency and calls for further research into how anxiety influences both objective performance and perceived fluency.

Keywords: Fluency; Second Language Acquisition; Oral Proficiency; Foreign Language Anxiety; Communicative Competence; Perceived Fluency

INTRODUCTION

Fluency is a fundamental component of second language (L2) speaking competence and a reliable measure of proficiency (Tavakoli et al., 2020; Barrot & Agdeppa, 2021). It means that communication flows smoothly and steadily without too much pausing, repeating, or correcting oneself (Stockdale, 2009). Researchers frequently assess fluency by temporal characteristics, including speech rate, articulation speed, and patterns of pauses (Qurbi, 2024). People usually put this into three groups: speed (how rapidly speech is created), breakdown (how often there are pauses), and repair (how mistakes are fixed) (Foster, 2020; Révész et al., 2016).

In research on L2 proficiency, fluency is typically analyzed in conjunction with complexity and accuracy, collectively referred to as the CAF framework, frequently through activities that simulate real-world conversation (Koizumi & In'nami, 2024). Previous studies indicate that grammatical and lexical knowledge, with cognitive abilities like word retrieval speed, are significant predictors of fluency (De Jong et al., 2013). In contrast to first-language acquisition, where speaking is predominantly automatic, L2 learners encounter heightened cognitive challenges in the process of translating thoughts into language (Kormos, 2006; Stokes, 2025). This makes fluency one of the hardest things for people who are learning a language to get right (Ayuni et al., 2021).

Emotional elements, especially anxiety, significantly affect fluency. Anxiety is characterized as enduring, uncontrollable anxiety (Rokach, 2020), and studies indicate it hampers oral performance by heightening hesitations and constraining involvement (Miskam & Saidalvi, 2019; Ayuni et al., 2021). Foreign language anxiety (FLA) might diminish possibilities for substantial practice, since learners may refrain from speaking in academic or social contexts (Stokes, 2025). Even advanced learners are not immune; Castillo (2019) discovered that worried individuals halted more frequently than their less anxious counterparts during oral examinations.

Although fluency and anxiety are recognized as important, relatively few studies directly link them with L2 proficiency outcomes. Many studies treat these aspects separately, which leaves a gap in understanding how linguistic, cognitive, and emotional factors work together to shape speaking ability. This paper seeks to address that gap by exploring the role of fluency in second language learning, focusing on its predictive value for proficiency and its relationship with language anxiety.

Research Objectives

1. To provide a conceptual overview of fluency in L2 learning.
2. To examine fluency as a predictor of L2 proficiency.
3. To analyze the relationship between fluency and L2 anxiety.

METHODOLOGY

This study is a conceptual paper based on a narrative review of existing literature. The sources comprise peer-reviewed journal articles, dissertations, and various scholarly works obtained via ResearchGate and Google Scholar, with the review restricted to publications from 2019 to 2025.

The narrative review approach was chosen because it allows for synthesizing diverse perspectives and organizing findings around the three main research aims: (1) how fluency is conceptualized in L2 learning, (2) how fluency functions as a predictor of proficiency, and (3) how fluency relates to L2 anxiety. This method is useful for making definitions clearer, combining multiple methodological concepts, and pointing out places where more empirical research is needed.

LITERATURE REVIEW

Definition Of Fluency

General perspectives on fluency

Fluency is widely recognized as a key component of spoken second language (L2) ability and a reliable indicator of proficiency (Suzuki & Kormos, 2025; Tavakoli, Nakatsuhara, & Hunter, 2020). In second language acquisition (SLA) research, the term has been used both narrowly and broadly. Narrow definitions emphasize temporal features such as speech rate, pausing and repair strategies, but broader interpretations view fluency as an overall measure of communication ability (Rohloff, Frank, & Peters, 2025; Lennon, 1990; Lintunen, Mutta, & Peltonen, 2020; Segalowitz, 2010).

Bilingual studies show that age of acquisition, frequency of language usage, affective states, and personal processing techniques all influence fluency (Rohloff et al., 2025; Grosjean, 2013; Green, 1998). From a psycholinguistic approach, fluent speech entails near-simultaneous language planning and delivery (Rehbein, 1987; Qurbi, 2024). These various perspectives illustrate the complexities of fluency and its dynamic, multidimensional nature.

Psycholinguistic and cognitive dimensions

From a cognitive perspective, fluency is regarded as the outcome of effective mental processing. Evidence indicates that both language competence (e.g., vocabulary and grammar) and processing speed (e.g., quick word retrieval) are significant predictors of performance in L2 fluency (De Jong, Steinel, Florijn, Schoonen, & Hulstijn, 2013, as cited in Qurbi, 2024). Although no singular definition prevails in the discipline, prevalent characteristics highlight smoothness, automaticity, and ease of communication as indicators of fluency (Fillmore, 1979; Freed, 2000; Kormos, 2006, all referenced in Qurbi, 2024).

Dimensions of Fluency

Based on psycholinguistic models of speech production, Segalowitz (2010) proposed a three-dimensional framework of fluency comprising cognitive fluency, utterance fluency, and perceived fluency. This framework distinguishes between the efficiency of internal processing, observable speech behaviours, and listeners' judgments of fluency. Specifically, cognitive fluency refers to the efficiency of the underlying mental processes involved in speech production, whereas utterance fluency reflects the measurable linguistic features of spoken performance. Perceived fluency, meanwhile, represents listeners' impressions of the smoothness and naturalness of speech. These three dimensions are interrelated: cognitive fluency influences utterance fluency, which in turn contributes to the formation of perceived fluency.

Segalowitz's tripartite model conceptualizes fluency primarily as a cognitive construct and assumes a largely unidirectional causal relationship that begins with automaticity, or cognitive fluency, and extends to the observable features of utterance fluency. Based on these features, listeners form an overall judgment of a speaker's fluency, referred to as perceived fluency. Accordingly, research in second language acquisition has examined fluency from multiple perspectives, including how listeners perceive fluent speech, the acoustic and temporal characteristics of produced speech, and the ways in which speakers' proficiency interacts with these dimensions and their subcomponents.

Temporal and measurement approaches

Measuring fluency involves examining the temporal and quantitative features of spoken performance, particularly utterance fluency, because it provides objective and measurable evidence of how smoothly speakers produce speech. In the present study, the main measures considered are speech rate, articulation rate, pauses, and repair frequency.

Speech rate refers to the number of syllables or words produced per minute and reflects the overall speed of speech production. Tavakoli et al. (2020) define speech rate as the total number of syllables produced per minute of speaking time. This measure is useful because it captures general speaking speed and reflects individual speech patterns, including pausing behaviour and syllable lengthening (Tavakoli & Wright, 2020).

Articulation rate measures the number of syllables or words produced per minute after pauses have been excluded. It therefore provides a more precise indication of the speed of actual speech production, as it focuses on articulation rather than total speaking time. For this reason, articulation rate is often considered a more refined measure of speaking rate in fluency research (De Jong, 2016; Tavakoli & Wright, 2020).

Pausing behaviour is also a central component of fluency assessment. Pauses are commonly analysed according to their frequency, duration, type, and position within speech. Bosker et al. (2013) showed that pause-related measures are significant predictors of listeners' fluency judgments. However, pause thresholds vary across studies, and this variation can make comparison difficult because pause duration may differ according to speakers, languages, and task types (De Jong & Bosker, 2013). In the present study, pauses of 0.5 seconds or longer are compared with shorter pauses ranging from 0.25 to 0.49 seconds in order to examine their relationship with second language proficiency. Repair frequency refers to the number of self-repairs produced during speech, including repetitions and self-corrections. It is usually calculated by dividing the number of repairs by the total speaking time (Hanzawa, 2024). Higher repair frequency may indicate lower fluency because repeated corrections and repetitions can interrupt the smooth flow of speech. Therefore, repair frequency provides an additional measure of how effectively speakers maintain continuous speech production.

Fluency In Second Language Learning

General importance of fluency

Fluency is consistently identified as one of the most crucial elements of L2 speaking skills and a strong indicator of proficiency (Suzuki & Kormos, 2025; Tavakoli, Nakatsuhara, & Hunter, 2020). For assessments to be

meaningful, fluency must be understood in relation to the type of speaking task, though studies of task effects have sometimes produced mixed or even contradictory findings (Segalowitz, 2010; Skehan, 2009).

Fluency is commonly analyzed in three dimensions: speed fluency (delivery rate), breakdown fluency (number and length of pauses), and repair fluency (self-corrections or repetitions) (Skehan, 2003; Tavakoli & Skehan, 2005). Later studies refined these categories, linking breakdown fluency with both silent and filled pauses (De Jong et al., 2013, 2015; Di Silvio, Donovan, & Diao, 2016; Guz, 2015) and repair fluency with visible corrections and false starts (Lahmann, Steinkrauss, & Schmid, 2017). Together, these components portray fluency as the uninterrupted flow of speech, combining both pace and the ability to handle interruptions smoothly (Foster, 2020; Révész, Ekiert, & Torgersen, 2016; Suzuki & Kormos, 2020).

Speech production and fluency

Process-oriented models of fluency emphasize how speech is produced in stages: conceptualization, formulation, articulation, and monitoring for accuracy (Segalowitz, 2010). Segalowitz further distinguishes between cognitive fluency (mental efficiency), utterance fluency (observable temporal features), and perceived fluency (how listeners judge performance).

The challenge for L2 learners is that unlike native speakers, who speak with little conscious effort, they must devote more mental resources to planning and forming utterances (Kormos, 2006; Stokes, 2025). Empirical studies confirm these theories. For example, in narrative tasks, heavier conceptual demands lower articulation rates and increase pausing, which negatively affects both speed and breakdown fluency (Préfontaine & Kormos, 2015).

Likewise, temporal measures such as speech rate, articulation rate, phonation-time ratio, and mean utterance length strongly predict fluency ratings (Cucchiari, Strik, & Boves, 2002; Derwing, Rossiter, Munro, & Thomson, 2004; Kormos & Dénes, 2004; Bosker, Pinget, Quené, Sanders, & De Jong, 2013). Overall, these findings show that fluency reflects both cognitive efficiency and its measurable outcomes.

Temporal and quantitative measures

Recent research has underscored the reliability of quantitative measures in capturing fluency. Speech rate, sometimes quantified in syllables per minute, together pause rates, serve as primary markers (Winaryo & Gusdian, 2021; Campione & Véronis, 2002; Heldner & Edlund, 2010). Fine-grained metrics like syllables per minute (SPM) or number of spoken syllables (NSS) are widely used in classroom research to see how learners are different from each other. Thresholds for pauses also assist determine fluency: fluent speech usually has pauses that last less than 0.2 second, while speech that is less fluent has pauses that last more than one second (Campione & Véronis, 2002; Heldner & Edlund, 2010). Phonation-time ratio and mean length of runs are two further measures that combine speed and breakdown fluency to give more accurate diagnoses (Kormos & Dénes, 2004; Lennon, 1990; Tavakoli et al., 2020). These metrics offer a robust methodological framework for evaluating fluency in both academic and practical contexts.

Task- and context-based variability

Fluency is not set in stone; it changes based on the task and the way individuals are talking. For instance, international students sometimes use self-repairs when they are anxious or have irrelevant ideas that are distracting them. They do this to keep the conversation going (Zuniga & Simard, 2022). The CAF model and other broader frameworks also illustrate that fluency changes based on task settings that are meant to be like real-life speech (Koizumi & In'nami, 2024). This demonstrates that fluency is dynamic, shaped by cognitive demands, emotional states, and interactional settings.

Fluency As a Predictor of Second Language Proficiency

Second language proficiency is a multifaceted construct comprising various characteristics. In this approach, fluency is typically regarded as a fundamental component of the CAF triangle (complexity, accuracy, and

fluency) (Chen, 2025). Research in second language acquisition has consistently underscored the significance of fluency, frequently associating it with communicative efficacy and sufficiency (Pallotti, 2021).

For instance, Chen (2025) examined the relationship between fluency, accuracy, complexity, and pronunciation (CAFP) and communicative adequacy in L2 speaking assessment. In this study, 158 Chinese learners learning English delivered talks lasting two to three minutes. Subjective evaluations showed that fluency was the second most significant component. Speed fluency, in particular, had a substantial link to both objective CAFP scores and subjective assessments of sufficiency.

Koizumi and In'nami (2024) examined the predictive connection between CAF characteristics and functional adequacy (FA) in oral tasks among Japanese learners of English. Their analysis demonstrated that fluency, particularly the speech rate quantified in syllables per minute, was a substantial predictor of functional adequacy in image narration tasks. Likewise, Kallio et al. (2023) identified speech rate as a significant predictor of fluency assessments among Swedish L2 learners, in comparison to native speakers and learners of varying skill levels. Other research has demonstrated that fluency can even serve as a predictor of language dominance. Rohloff et al. (2025) investigated bilingual speakers of Low and High German, discovering that speed fluency, especially pause duration and frequency, significantly indicated the dominant language.

The findings indicate that fluency, particularly speech rate, consistently predicts oral proficiency and functional adequacy. Learners who articulate faster and with less pauses generally achieve greater fluency and successful communication (Kallio et al., 2023; Koizumi & In'nami, 2024). However, it is also crucial to recognize that speaking too quickly can occasionally lead to mistakes in pronunciation or word choice (Qurbi, 2024). This shows that fluency is a strong predictor, but it is also an intricate and occasionally detrimental aspect in determining how well a learner performs in a second language.

The Relationship Between Fluency and Second Language Anxiety

Pauses and hesitation

A consistent finding in studies is that foreign language anxiety elevates the frequency and variety of pauses in learners' speech. Rood and De Jong (2023) discovered that students conversing in high-anxiety situations, such as with an unfamiliar instructor, had longer silent pauses and an increased frequency of filled pauses in contrast to interactions with peers in low-anxiety environments. In the same way, Szyszka and Lintunen (2023) found that learners with high FLA had more varied pause patterns, while learners with low anxiety had more steady pause behavior. Other research provides further complexity; Ashriyyah and Indah (2024) observed that anxious learners frequently employed intentional pauses or code-mixing, whereas Mora et al. (2024) indicated that low-anxiety, high-proficiency learners generated shorter pauses, fewer repetitions, and less errors. These results show that pauses are a good way to tell how anxiety impacts speaking performance.

Speech rate and articulation

Anxiety also changes speech rate. Szánthó (2021) discovered that learners exhibiting elevated Foreign Language Anxiety (FLA) communicated at a slower pace, although their articulation rates were comparable to those of non-anxious learners. This suggests that anxiousness mostly inhibits output rather than compromising fundamental pronunciation. Building on this, Szyszka et al. (2024) demonstrated that both speech rate and articulation rate had a negative correlation with anxiety. Learners who were more anxious about the task or the output took longer to do it, while those who spoke effortlessly and quickly were less anxious.

Attention and self-repair

Anxiety has been associated with attentional control and repair strategies in addition to temporal measures. Zuniga and Simard (2022) found that learners with higher anxiety and slower attention-switching abilities produced fewer words per minute and more self-initiated repairs (SISRs), which suggests reduced fluency under pressure. Conversely, learners who possessed greater attentional control were less affected by anxiety in terms of self-repair. Additionally, Szyszka et al. (2024) discovered that filled pauses frequently indicated a combination

of processing and output anxiety, demonstrating that hesitation behaviors can disclose underlying attentional strain.

Synthesis

In general, the evidence indicates that FLA has a significant impact on fluency on multiple levels. It temporarily reduces the rate of speech and increases the number of silent and filled intervals. Cognitively, it influences self-repair strategies and monitoring behaviors by virtue of its interaction with attentional control. The general pattern is clear: fluency is typically undermined by higher anxiety, particularly during the output stage of language production, although the extent of its impact can differ depending on learners' proficiency and attentional flexibility.

CONCLUSION

Fluency is widely acknowledged as a critical determinant of communicative proficiency, as it incorporates temporal aspects of speech, including rate, pausing, and repair strategies. Furthermore, fluency is being increasingly defined in terms of the overall ease of expression, automaticity, and fluidity. In assessment ratings, speech rate is frequently identified as one of the most robust predictors, particularly in relation to communicative adequacy and functional performance, as empirical findings consistently emphasize its predictive value for language proficiency.

Furthermore, fluency demonstrates a significant association with language anxiety in second language contexts. Learners experiencing anxiety often exhibit disruptions in fluency, including longer silent pauses, increased use of filled pauses, and reductions in speech rate. Anxiety has also been shown to heighten the incidence of self-initiated repair, thereby constraining the fluidity of speech production and overall communicative effectiveness.

While many studies focus on measurable fluency features such as speech rate, pauses, and repairs, less attention has been given to how anxiety shapes perceived fluency from the listener's perspective. Future research should investigate how foreign language anxiety influences the way learners' fluency is judged by teachers, peers, or examiners, and whether these perceptions differ from objective temporal measures.

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