

FIRST PERSON SINGULAR

Pauline Foster's essential bookshelf: Oral fluency in a second language

Pauline Foster 

University College, London, UK
Email: pauline.foster@ucl.ac.uk

(Received 9 December 2022; accepted 11 December 2022)



Pauline Foster was Professor of Applied Linguistics at St. Mary's University until her retirement in 2020, and is currently a Senior Research Associate at University College, London. Pauline has published her research widely, including papers on task-based language performance, classroom interaction, idiomaticity, and the development of instruments for oral language analysis. Pauline's i-10-index is 29, with more than 10,500 citations.

I had reached the age of 11 with no experience of any language other than my (one) mother tongue, when French and Latin appeared on my school timetable. Both were taught in the same Grammar-Translation manner. Rules and vocabulary items were explained, verb conjugations (and Latin noun declensions) were memorised through chanting, and homework involved encoding or decoding specimen sentences. I was very good at this kind of thing.

Unfortunately, but unsurprisingly, I was not very good at the speaking and listening comprehension exercises when these were finally introduced into the French classes. After four years, I gave up, frustrated by the plodding mental translation from which I could not wean myself. I had decided that Classical Greek, a non-spoken companion to Latin, was an easier option.

Yet, I remained committed to being 'fluent' in French, which to me meant having it as a skill I could deploy easily. After University, with that sole aim, I moved to Paris and encountered the bewildering pace and idiomaticity of the authentic, living language. When I departed a year later, I was able to hold up my end of a conversation, though not as easily as I would have liked. I never lived in a francophone environment again, and my French oral skills inexorably attrited. More than 40 years on, however, I can still recite the verb conjugations.

Because of my own failure to achieve it, I find second language (L2) fluency in others fascinating. Through the course of my academic career, I have studied it from numerous perspectives: language theory, language processing, language acquisition, oral performance measures, and the social-psychological influences on the way humans manage interactions. I have pondered how to explain it, define it, measure it, test it. Along the way, I have come to appreciate fluency as the only dimension of L2 performance that reflects low ability as well as high ability, articulacy as well as superficiality, and local processing hiccups as well as individual speaking style. I have also come to appreciate that any moment of disfluency can be a sign of faltering, or a deliberate strategy. In Foster (2012), I laid out this distillation of fluency. I have not included it on my Essential Bookshelf, but anyone looking for a preparatory overview of first language (L1) and L2 fluency can find one there.

The texts on my Essential Bookshelf are organised into three broad strands: theory, research, and pedagogy. Each contains a selection of publications that I tend to revisit, even those that I first read in the late 1980s. This is partly because they are well written, which is very important to me, and partly because the more I read them, the more I find in them. Some of the titles I have included are well-known in the sense that they are very frequently cited, possibly in secondary sources for something oft-quoted, but I feel they should be read as primary sources even if decades have passed since they were first published. There are buried gems in there for the careful reader, as well as useful context for how the authors' arguments might have been diminished in successive secondary sources.

The texts below span the years 1980 to 2019, giving a long historical perspective on how exploration of oral fluency has developed, and technology has revolutionised its analysis. Back in 1979, Givón lamented (p. 228) that neither the nature of fluency nor its psychological basis was seen as an important topic for language theory or language description. We have come a long way since then.

Strand one: Theory and models of speech fluency

Why fluency is a natural feature of speech, and how it is possible

(1) Pawley, A., & Syder, F. (1983). Two puzzles for linguistic theory: Nativelike selection and nativelike fluency. In J. Richards & R. Schmidt (Eds.), *Language and communication* (pp. 191–227). Longman.

During my M.A. studies in 1987, Chomsky's (1957, 1965) transformational-generative theory of language was required reading, but its complexity (abstruseness even, in the phrase-tree diagrams and algebra-like formulae) was hard for me to evaluate. So, when I read Pawley and Syder's challenge to it, I appreciated at once the clarity of their writing, and the copious examples they provided of 'nativelike selections', that is, phrases and sentence stems recognisably habitual within English speech communities. The paper invites Chomskyans to explain the reality of attested language data; if our grammatical and lexical knowledge gives us the capacity for generating infinite novelty in expression, why are we all recycling the same combinations of words?

The answer the authors provide involves our human predilection for fluent speech. At the normal articulation rate of about five syllables per second, we assemble chains of grammatical clauses, attend to our interlocutor, monitor the context and overall logic of the interaction, and (largely) confine our pauses to syntactic boundaries. To ease this otherwise impossible processing burden, we draw constantly on a socially-shared lexicon of words in fully- or partially-fixed relationships to other words. Constantly creating novel utterances would require us laboriously to fill the slots in a grammatical framework selected for the nonce. Even a simple interaction would be insupportably slow.

Subsequent research in corpus linguistics (e.g., Sinclair, 1991) revealed language structure as less like phrase trees and more like streams of collocational patterns. Pawley and Syder articulated this notion before computer analysis of vast language corpora was available. The fact that they were right impresses me still.

How is fluency a by-product of the process of language acquisition?

(2) Ellis, N. C. (1997). The epigenesis of language: Acquisition as a sequence learning problem. In A. Wray & A. Ryan (Eds.), *Evolving models of language* (pp. 41–57). British Studies in Applied Linguistics, 12. Multilingual Matters Ltd.

Among the hundreds of conference papers I have attended over the years, Nick Ellis's presentation at the BAAL 1996 Annual meeting stands out as the most memorable. In the late 1990s, it was (for me at least) unusual to hear anyone argue publicly against a nativist account of language acquisition, that humans are genetically endowed with a Universal Grammar residing in a Language Acquisition Device. Ellis takes Occam's razor to this notion: 'why posit predeterminism, like magic, when simpler explanations might suffice (p. 43)?' Language is manifestly complex, but the process of acquiring it

does not need be complex, or mysteriously unknowable. Ellis's simpler explanation is that '*language learning is the learning and analysis of sequences.*' (p. 45, original emphasis).

In this account, children use sequential probabilities and implicit pattern analysis to abstract information about target language structure (phonotactics, word class, syntactic patterns) from their repeated exposure to sound sequences in words, and word sequences in phrases. The more often sounds or words are encountered in particular patterns, the more likely those patterns will be stored in long-term memory. This process underlies the induction of regularities (grammar), and accounts for the phrasal lexicon of nativelike selections, described by Pawley and Syder in 1983, which in turn enables fluent, idiomatic speech. Ellis applies this process also to adult second language acquisition, where it is not entirely successful, but it does account to some degree for L2 fluency rooted in a phrasal lexicon, acquired implicitly and accessed easily.

Ellis (1996) provides a longer and more detailed account of his argument, which I would also recommend. But the conference presentation was a watershed moment for me, rejecting nativism and linking language acquisition, fluency, and idiomaticity with John Locke and Charles Darwin. Wonderful.

How do we model fluency in speech production?

(3) Levelt, W. J. M. (1989). *Speaking: From intention to articulation*. Cambridge: The MIT Press.

A standard text in psycholinguistics, this book has been influential in fields as varied as phonology, semantics, syntax, language acquisition, and speech pathology. Thirty years after publication, it was estimated to have had over 60,000 citations (Meyer et al., 2019).

Since the 1990s, L2 fluency research (including mine) has typically drawn on Levelt's model of speech processing. There are three main components, or stages, in this model: conceptualisation, formulation, and articulation. A pre-verbal message is generated at the conceptualisation stage, which is encoded in appropriate words and syntax at the formulation stage. At the articulation stage, a phonetic plan is prepared, and the message is executed as speech (Levelt, 1989, 9ff). Fluency resides in these components working in parallel. If they did not, 'speaking would be more like playing chess: an overt move now and then, but mostly silent processing' (p. 27). People are not language production machines, however, and the model incorporates feedback loops for self-monitoring, and changes of mind.

The book has its limitations. It is theoretical rather than empirical, with language examples that are invented rather than authentic. Further, formulation is assumed to access a lexicon comprising individual lemmas, without the fluency-enhancing collocational or colligational links they might have with each other. Most importantly from an L2 perspective, the book does not consider how a bilingual lexicon might affect the working of the model as a whole. This last limitation is comprehensively dealt with by Kormos (2006), who argues that L2 formulation, especially at lower levels of proficiency, cannot always operate in parallel with conceptualisation, hence frequent pausing. Yet, Levelt's book remains important. It is a staple reference in fluency research papers, which frequently reproduce the diagram of the model (p. 9). To understand the diagram properly, I find it useful to see it in its original environment, with Levelt, rather than a secondary source, talking me through it.

L2 Fluency is in the mind of the speaker, the ear of the listener, and the context of the interaction.

(4) Segalowitz, N. (2016). *Second language fluency and its underlying cognitive and social determinants*. *International Review of Applied Linguistics*, 54(2), 79–95.

This paper provides two very useful things: an account of three facets of L2 fluency, and a framework for how it is shaped and determined by what Segalowitz has termed 'the social-motivational matrix in which language learners find themselves' (p. 92).

In defining fluency, Segalowitz writes that, more than the smooth articulation of speech (utterance fluency), it is the rapid working of the cognitive mechanisms preceding articulation (cognitive fluency)

and includes the listener's subjective judgement of smoothness (perceived fluency). It is notable that in the main L2 fluency research has prioritised utterance fluency (though see text 7 below), and Segalowitz recommends it should be exploring how utterance and cognitive fluency are related.

Importantly, Segalowitz argues that L2 fluency is determined by a host of factors that are by nature socio-pragmatic, psychological, and motivational as much as cognitive and linguistic, all interacting in dynamic, complex ways. His Framework for L2 Fluency (p. 90) illustrates how these factors influence, and in turn are influenced by, the learner's experience of using the L2. The diagram and its accompanying footnotes are clear, concise, and well worth pondering. It is useful also to consider this diagram alongside Levelt's (1989, p. 9) as this shows how the field of L2 fluency had developed in the intervening 27 years.

I very much like the emphasis Segalowitz places on speaking as a social act, informed and constrained by socio-pragmatic 'rules' of use. Achieving high-level L2 fluency is to reach the point of being able simultaneously to plan, assemble, and articulate streams of utterances that are structurally, lexically, and communicatively competent. No wonder so many learners, like me, fall short.

Strand two: Research studies on fluency

It was extremely hard to pick recommendations from the large number of fluency research papers that I have read and admired over the years. Ultimately, I settled on two trail-blazers, and three cutting edges.

Where did research into fluency start, and what lines did it pursue?

(5) Raupach, M. (1980). *Temporal variables in first and second language speech production*. In H. W. Dechert & Raupach M. (Eds.), *Temporal variables in speech: Studies in honour of Frieda Goldman-Eisler* (pp. 263–270). Mouton.

A 1978 interdisciplinary workshop on 'pausology' at the University of Kassel gave rise to this extensive collection of papers. It represents an impressive range of (at that time) fledgling research into oral fluency. The hardback might be hard to locate, and expensive, but individual chapters are available electronically, and many are worth getting hold of. I have selected Raupach's own contribution because much of the succeeding 40 years of fluency research finds its impetus here.

Ten bilingual speakers of French and German were asked to describe, in their L1 and their L2, a wordless cartoon drawing. The transcripts were coded for a variety of speed, breakdown, and repair variables, and comparisons made between the L1 German and L1 French performances, between the L1 and L2 performances, and between the 'pausing profiles' of two of the participants.

The research is small-scale, exploratory in nature, and the data analysis is based on mean scores and raw percentages, which would not pass muster today. Nevertheless, Raupach discerned in his results two things with which we are now familiar: the contribution to fluency of what he described as idiomatic place-holding expressions, better known now as fillers and multi-word sequences; and that an individual's pausing profile can be idiomatic, and transfer from L1 to L2 performance.

I rescued a copy of this book from a library cull in the early 2000s and was very pleased to have it. It is an historical record of how fluency began to be such a wide-ranging and fruitful area in L2 research. Raupach's paper is my pick of this bunch: concise, well-argued, and remarkably perceptive.

For research purposes, how can L2 fluency be defined and captured?

(6) Lennon, P. (1990). *Investigating fluency in EFL: A quantitative approach*. *Language Learning*, 40(3), 387–417.

Lennon's paper is more than 30 years old but remains among the most predictably cited in the L2 fluency research literature. It provides two things: an excellent discussion of what is meant by the term 'fluency'; and a pioneering trial of quantifying fluency in oral performance data through the use of temporal measures.

In his discussion of L2 fluency, Lennon distinguishes the layman's 'broad' sense (general proficiency in the language) from the more technical 'narrow' sense (speed and flow in speech). He makes the interesting observation that an L2 speaker's phonological, lexical, and grammatical errors could unfairly incline a listener (such as an oral examiner) to judge the speech as dysfluent, when it might not be any more dysfluent than a native speaker's. (Liyanage & Gardner (2013) is an interesting follow-up to this.)

Lennon's study is the first to investigate L2 fluency (narrow sense) using quantifiable measures such as speech rate, length and positioning of pausing, length of run between pauses, repetitions, and self-corrections. Two speech samples were elicited from four German L1 learners of English studying in the UK; the first after one month's residence, the second five months later. The measures were then applied to track in what ways their fluency had developed, and how this compared with the perceived fluency judgements of a panel of trained English as a Foreign Language (EFL) teachers.

I came rather late to Lennon's paper, reading it only after I had completed a number of quantitative studies using some of his utterance fluency measures. His point about fluency having both lay and technical definitions helped me understand that, as an L2 language learner, I had been seeking the former while aiming at the latter, and that this is quite likely a common misapprehension.

When we perceive a speaker to be fluent, what aspects of speech are we paying attention to?
(7) Saito, K., Ilkan, M., Magne, V., Tran, M., & Suzuki, S. (2018). Acoustic characteristics and learner profiles of low-, mid- and high-level second language fluency. *Applied Psycholinguistics*, 39(3), 593–617.

This very well-designed study uses quantitative and qualitative data to address three important questions: how are judgements of perceived L2 fluency related to temporal measures of utterance fluency, which temporal measures distinguish different levels of perceived fluency, and to what extent is L2 fluency related to L2 experience?

English L2 speech samples of 90 Japanese learners at different levels of proficiency, plus ten native speakers, were assessed by native speaker raters for their perceived fluency. The data was also coded for utterance fluency measures of speed, mid- and end-clause pausing, and self-repair. Correlation analyses revealed that in making their fluency judgements, the raters seemed to be tuned to speech rate and pausing more than to repair. Further analysis showed that while the pausing and speed measures related to learners in the low- to mid- range of perceived fluency, only mid-clause pausing and speech rate related to those in the mid- and high-range, and only speech rate related to those with high- and native-level fluency. A final analysis showed that higher levels of perceived fluency were associated with the learners' experience of living in the L2 community, but not their age of arrival.

I am impressed by the sheer number of perspectives on fluency this paper draws together: psycholinguistic processing, social exposure, and individual differences. The way it consolidates, confirms, and builds on previous research findings in these areas I find particularly satisfying. It has taken me several readings to get the measure of it, as it is so packed with detail, and there is probably more to find when I go back to it again.

Is there a relationship between a speaker's fluency in an L1 and an L2, and if so, in what aspects of fluency does it reside?

(8) Zuniga, M., & Simard, D. (2019). Factors influencing L2 self-repair behaviour: The role of L2 proficiency, attentional control and L1 Self-repair Behaviour. *Journal of Psycholinguistic Research*, 48(1), 43–59.

As people vary in degrees of fluency when speaking their native language(s), it is interesting to ask to if L2 disfluencies are indications of local processing difficulty, or of an independent, idiosyncratic trait.

Zuniga and Simard (2019) explored this question by looking at self-repair. The 58 participants were native speakers of French and L2 speakers of English. Their English proficiency was measured by a cloze test, and

their ability to focus and shift attention (i.e., attentional control) was assessed by a divided attention task. Speech samples of their French and English were elicited by picture-cue narratives, from which the self-repairs were extracted. Table 1 (p. 50) gives examples of these from the transcripts, and how each relates to the conceptualisation and formulation components of Levelt's (1989) model of speaking.

Analyses comparing the participants' French and English narratives revealed a strong positive correlation in incidence of self-repair: 'Frequent L1 repairers are also frequent L2 repairers' (p. 56). Analyses also found incidence of L2 self-repair correlated moderately with attentional control scores, but only weakly with L2 proficiency. The authors conclude that learners' tendency to self-repair in an L2 is not so much indicative of their L2 proficiency, as it is of underlying cognitive traits that influence how they process language *per se*. Derwing et al. (2009) is a similar and very interesting exploration of the relationship between a learner's L1 and L2 performance.

I was fascinated to see this empirical prising apart of L2 fluency and L2 proficiency when, regardless of individual speaking styles, it is common to imagine the two as entwined. That was a certainly assumed during my training as an L2 oral language examiner, so research evidence to the contrary invites, I would hope, a re-think of how a candidate's real time performance should be assessed for its fluency.

(9) Tavakoli, P., & Uchihara, T. (2019). To what extent are multiword sequences associated with oral fluency? *Language Learning*, 70(2), 506–547.

As we saw in my first selection above, Pawley and Syder's puzzle of native-like fluency argues that constant novelty in expression would make speaking insupportably slow and effortful, so speakers take the processing shortcuts provided by a socially-shared lexicon of words that typically co-occur. Tavakoli and Uchihara (2019) provide empirical evidence for this idea by exploring the links between L2 proficiency, L2 fluency, and use of multiword sequences (MWS).

The authors use a database of short monologues, all on the same topic, produced by 56 learners of English across four levels of proficiency. The transcripts were coded for three aspects of utterance fluency: speed (articulation rate), breakdown (frequency and place of pausing), and repair (hesitations, repetitions, and reformulations). Contiguous sequences of two- and three-word combinations were identified and referenced to a 79-million-word corpus of oral data. Correlation analyses tested the strength of association between these MWS and measures of fluency.

I suspect there were even more MWS in the data than were captured by short contiguous sequences; nonetheless, the results indicate convincingly that L2 fluency (faster articulation, fewer mid-clause breakdowns, and less frequent repair) is positively related to the incidence of MWS. Interestingly, qualitative analyses showed that while learners at all levels of proficiency were apt to 'borrow' multiword sequences from the task rubric, the least proficient used them verbatim, while the more proficient appeared able to manipulate them to fit into their own constructions. This shines a light on how knowledge of MWS develops as learners become more able to integrate them into speech production.

I admire the design of this study and its meticulous approach to analysis. Also, I take pleasure in seeing a long-standing theoretical notion borne out by empirical work, using technology undreamt of when the notion was first proposed.

Strand three: Pedagogy

I have chosen two closely related studies for this strand because they complement each other. In essence, they pose the same question of language textbook writers, and of classroom teachers: do you believe that L2 fluency responds to pedagogic intervention?

(10) Rossiter, M., Derwing, T., Manimtim, L. & Thomson, R. (2010). Oral fluency: The neglected component in the communicative language classroom. *The Canadian Modern Language Review / La revue canadienne des langues vivantes*, 66(4), pp. 583–606.

Research publications on L2 fluency often conclude with recommendations for classroom teachers to act upon. Rossiter et al.'s paper is unusual because it approaches the topic from a different angle. It

searches through a selection of commercial teaching materials to determine what kind of fluency-enhancing activities are to be found in them, and then recommends ways these could be supplemented, with reference to a wide swathe of research studies. Classroom practice is not a coda here; it is front and centre.

The authors surveyed 14 teacher resource books and 28 EFL textbooks (half of which explicitly focussed on oral fluency) for five categories of activities supposed to develop fluency: task rehearsal, task repetition, consciousness-raising, use of fillers and formulaic sequences, and free production. They found that free production tasks were the most common fluency activities in the resource books and textbooks, with rehearsal, repetition, and use of formulaic sequences lagging behind. Interestingly, the textbooks that explicitly targeted fluency offered precisely nothing on consciousness-raising or the use of fillers. With evidence pointing to oral fluency instruction being insufficient (at least in their part of Canada), the authors address in the rest of the paper how to improve matters, using examples of fluency-supporting activities of various sorts, each backed up with research citations.

I admire this paper because it is practical, accessible, and replicable. Anyone can do a similar survey of popular language teaching materials in their part of the world to assess whether these also tend to assume L2 fluency develops by itself, in free production, with insufficient regard for other fluency-supporting activities derived from empirical evidence. Were I still a language teacher, I'd be looking to do exactly that.

(11) Tavakoli, P., & Hunter, A-M. (2018). Is fluency being 'neglected' in the classroom? Teacher understanding of fluency and related classroom practices. *Language Teaching Research*, 22(3), 330–349.

Following Rossiter et al. (2010), but with teachers as informants, the authors investigate whether fluency is a neglected component of L2 classroom practice. Their study sheds light on how different stakeholders (teachers and researchers) conceptualise L2 fluency and its development.

Eighty-four language teachers took a questionnaire on L2 fluency: how they define it, which factors contribute to it, and how it is promoted in classrooms. They were asked to say how confident they felt in teaching fluency, and how familiar they were with the fluency research literature.

The data is quantitative and qualitative, yielding rich detail. While a large majority of the teachers said they knew what was meant by speech fluency, their definitions generally fit Lennon's (1990) 'broad' sense of general L2 competence, with only a small number fitting the 'narrow' sense of speed and smoothness. In terms of helping learners become more fluent, the teachers' responses showed an interesting combination of overall confidence and limited knowledge. A third said they had next to no familiarity with research findings, even though three-quarters said research could be useful to pedagogy. Asked to give three examples of fluency-promoting activities, many teachers could give only one or two. The 195 activities they did name were overwhelmingly of the free-production type (role-plays and discussions) with very few involving consciousness-raising, task repetition, or discourse management. For these teachers therefore, L2 fluency is largely assumed to improve through opportunities to practice speaking, rather than any other classroom interventions.

In L2 research, it is commonplace to describe fluency as multi-faceted, or multi-dimensional, so I was struck by the evidence here that teachers don't think of it that way. It's also commonplace to remark how rarely research findings penetrate the classroom, so I was sadly unsurprised to see that the teachers in this study were largely unaware of studies showing, robustly, the effectiveness of fluency-enhancing pedagogic interventions.

When we assess fluency, shouldn't we include ability to manage interactions?

(12) McCarthy, M. (2010). Spoken fluency revisited. *English Project Journal*, 1(1), 1–15.

McCarthy reminds us that speaking usually involves two or more interlocutors, and that notions of fluency should therefore include how smoothly they handle phenomena such as turn-taking and

co-constructions. Describing this as ‘confluence’, which L2 fluency research has largely ignored through its bias towards monologues, he invites a new perspective on L2 oral assessment: how good is the learner not only at fluent speech, but also at confluent discourse management?

After a useful summing up of oral fluency, both the ‘broad’ and ‘narrow’ kinds in Lennon’s (1990) terms, McCarthy shows how sustaining interactive confluence makes additional demands on interlocutors. These include: managing the boundaries between turns to minimise any gap between them; formulating turn-openers to link back to what the previous speaker has said; and turn-closers to signal that a transition relevance point is imminent. Co-constructions, where syntactic structures cross over turn boundaries, are signs of interlocutors taking joint responsibility to maintain seamless interaction, while back-channel behaviour by the listener, (‘yes’, ‘no’, ‘mm’, ‘really?’), encourages the speaker to keep going rather than lapse into a pause (Wolf, 2008).

For a very long time, L2 assessment has been organised in terms of four language skills, so it might seem audacious of McCarthy to suggest a fifth. Yet, I find he makes a very good case for confluence. An instinctive need of humans as language users, whether that be in a first language or a second, is to appear fluent when we converse with each other. Skilful discourse management is a crucial part of this. Central to this argument, and something I immediately liked about this paper, is its linking of L2 assessment to Conversation Analysis (Sacks et al., 1974). It is always gratifying to see diverse threads of applied linguistics being woven together.

Final thoughts

I have tried in my selection of essential reading to represent the breadth and diversity of the literature on L2 fluency. Within my strict limit of 12 choices, I know I have not been able to do justice to the field or the many exceptional researchers working within it. But I hope I have succeeded in getting across to readers the idea that L2 fluency is not just about learners being ‘good’ or being ‘smooth’, it’s also about them being themselves – that is, the selves they can portray when they speak in their L1s. This instinct is so strong that it can lead to some L2 learners (such as I was) to choose not to say much because they can’t be themselves. Other learners, more determined or less inhibited, ditch the pursuit of accuracy, which acts as a brake, in favour of speaking the L2 imperfectly but at their wonted pace. Two good sources for these strategies are Schmidt (1983), whose case study Wes was a highly fluent but fossilised L2 learner, and Skehan (2018), whose Limited Capacity Approach to L2 performance argues, among other things, that learners might choose to prioritise some aspect of oral performance, such as being grammatically accurate, over others, such as speaking at a natural pace. That was me in French.

I hope careful readers of these 12 texts on my bookshelf will recognise the links between idiomaticity, discourse management, Levelt’s processing model, first language performance, and the body of research support for task-based classroom activities that enhance fluency without compromising accuracy. In my mind at least, a coherent picture of L2 fluency emerges from all this recommended reading, a picture that has gradually come into focus over the past 40 years and gets clearer all the time.

References

- Chomsky, N. (1957). *Syntactic structures*. Mouton.
- Chomsky, N. (1965). *Aspects of the theory of syntax*. M.I.T. Press.
- Derwing, M., Munro, M., Thomson, R., & Rossiter, M. (2009). The relationship between L1 fluency and L2 fluency. *Studies in Second Language Acquisition*, 31(4), 533–558. doi:10.1017/S0272263109990015
- Ellis, N. (1996). Sequencing in SLA: Phonological memory, chunking, and points of order. *Studies in Second Language Acquisition*, 18(1), 91–126. doi:10.1017/S0272263100014698
- Ellis, N. (1997). The epigenesis of language: Acquisition as a sequence learning problem. In A. Wray & A. Ryan (Eds.), *Evolving models of language* (pp. 41–57). British Studies in Applied Linguistics, 12. Multilingual Matters Ltd.
- Foster, P. (2012). “Fluency”. In C. A. Chapelle (Ed.), *The encyclopedia of applied linguistics* (pp. 2124–2130). EdWiley-Blackwell. ISBN 9781405198431 doi:10.1002/9781405198431.wbeal0417

- Givon, T. (1979). *On understanding grammar*. Academic Press. doi:10.1080/19463014.2013.779285
- Kormos, J. (2006). *Speech production and second language acquisition*. Lawrence Erlbaum Associates.
- Lennon, P. (1990). Investigating fluency in EFL: A quantitative approach. *Language Learning*, 40(3), 387–417. doi:10.1111/j.1467-1770.1990.tb00669.x
- Levelt, W. J. M. (1989). *Speaking: From intention to articulation*. The MIT Press. doi:10.7551/mitpress/6393.001.0001
- Liyanae, I., & Gardner, R. (2013). Assessing fluency: Are the criteria fair? *Classroom Discourse*, 4(1), 27–41. doi:10.1080/19463014.2013.779285
- McCarthy, M. (2010). Spoken fluency revisited. *English Project Journal*, 1(1), 1–15. doi:10.1017/S2041536210000012
- Meyer, A., Roelofs, A., & Brehm, L. (2019). Thirty years of speaking: An introduction to the special issue. *Language, Cognition and Neuroscience*, 34(9), 1073–1084. doi:10.1080/23273798.2019.1652763
- Pawley, A., & Syder, F. (1983). Two puzzles for linguistic theory: Nativelike selection and nativelike fluency. In J. Richards & R. Schmidt (Eds.), *Language and communication* (pp. 191–227). Longman.
- Raupach, M. (1980). Temporal variables in first and second language speech production. In H. W. Dechert & M. Raupach (Eds.), *Temporal variables in speech: Studies in honour of Frieda Goldman-Eisler* (pp. 263–270). Mouton. doi:10.1515/9783110816570.263
- Rossiter, M., Derwing, T., Manimtim, L., & Thomson, R. (2010). Oral fluency: The neglected component in the communicative language classroom. *The Canadian Modern Language Review / La revue canadienne des langues vivantes*, 66(4), 583–606. doi:10.3138/cmlr.66.4.583
- Sacks, H., Schegloff, E., & Jefferson, G. (1974). Simple systematic for the organisation of turn taking in conversation. *Language*, 50(4), 696–735. doi:10.2307/412243
- Saito, K., Ilkan, M., Magne, V., Tran, M., & Suzuki, S. (2018). Acoustic characteristics and learner profiles of low-, mid- and high-level second language fluency. *Applied Psycholinguistics*, 39(3), 593–617. doi:10.1017/S0142716417000571
- Schmidt, R. (1983). Interaction, acculturation, and the acquisition of communicative competence: A case study of an adult. In N. Wolfson & E. Judd (Eds.), *Sociolinguistics and language acquisition* (pp. 137–174). Newbury House.
- Segalowitz, N. (2016). Second language fluency and its underlying cognitive and social determinants. *International Review of Applied Linguistics*, 54(2), 79–95. doi: 10.1515/iral-2016-9991
- Sinclair, J. (1991). *Corpus, concordance, collocation*. Oxford University Press.
- Skehan, P. (2018). *Second language task-based performance: Theory, research, assessment*. Routledge. doi:10.4324/9781315629766
- Tavakoli, P., & Hunter, A.-M. (2018). Is fluency being ‘neglected’ in the classroom? Teacher understanding of fluency and related classroom practices. *Language Teaching Research*, 22(3), 330–349. doi:10.1177/1362168817708462
- Tavakoli, P., & Uchiyama, T. (2019). To what extent are multiword sequences associated with oral fluency? *Language Learning*, 70(2), 506–547. doi:10.1111/lang.12384
- Wolf, J. P. (2008). The effects of backchannels on fluency in L2 oral task production. *System*, 36(2), 279–294. doi:10.1016/j.system.2007.11.007
- Zuniga, M., & Simard, D. (2019). Factors influencing L2 self-repair behaviour: The role of L2 proficiency, attentional control and L1 self-repair behaviour. *Journal of Psycholinguistic Research*, 48(1), 43–59. doi:10.1007/s10936-018-9587-2