New directions and developments in defining, analyzing and measuring L2 speech fluency

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Introduction to the special issue

The investigation of L2 speech fluency over the past decade has brought significant progress in understanding its multi-faceted nature and its role in SLA, particularly in temporal terms of fluid automatic speech production (Kormos 2006; Segalowitz 2010). Researchers have highlighted the importance of different language typologies, clarifying the relationship between L2 and L1 fluency (de Jong et al. 2012), working towards careful and consistent measurements of fluency (Skehan 2009) and bringing rigour to models of L2 speech production (Kormos 2006). Recent research findings highlight L2 fluency as a reliable predictor of L2 proficiency (de Jong et al. 2012; Revesz et al. 2014), but also a characteristic that retains some traits of L1 speech production (de Jong et al. 2012), with implications for SLA research on L2 development and ultimate attainment. Notwithstanding the progress research has made in this area, L2 fluency still remains a complex research construct in SLA, an aspect of performance difficult to define and measure consistently across different tasks and conditions, and a characteristic of language use that many L2 learners may find difficult to develop in and out of the classroom.

The special issue provides a timely opportunity to revisit some of the several unknowns about L2 fluency, particularly to refine the current range of theoretical and empirical approaches to defining the construct of L2 fluency, and implications for measuring fluency (Segalowitz). The empirical studies from the other invited authors focus specifically on four main issues: exploring what may affect variability in performance and development in different tasks (Tavakoli), to consider how measures of fluency can differentiate underlying cognitive demands at planning and utterance level of speech (Skehan et al.), to examine factors that affect both L1 and L2 fluency (de Jong), and to include the significance of listener perception and comprehensibility (Préfontaine and Kormos). Some of the papers

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combine theoretical, contextual and empirical insights, while others are more specific in addressing current debates over standardising the way fluency measures are operationalised. Both quantitative and qualitative approaches are used, providing therefore a useful multi-faceted comparative collection of constructs, methods and evidence to take our understanding of fluency development forward.

In the first scene-setting paper, Segalowitz moves the framework of the fluency agenda forward by extending the current *descriptive* approach to an *exploratory* framework. Drawing on a dynamic systems perspective and considering language in its broader sociolinguistic context, Segalowitz introduces a fresh perspective that can potentially allow for both identification of mechanisms and processes underlying fluency, and emergence of common patterns of fluency and disfluency, driven by language use in authentic communicative contexts. He proposes that combining rigorous cognitive science with communicative learning research provides a broader framework that would enable researchers to study fluency more insightfully within the larger context of second language acquisition. In his paper, after a detailed discussion of the differences between cognitive, utterance and perceived fluency, Segalowitz argues that research in this area so far has sought to establish a catalogue of L2-specific utterance fluency features and an indication of how these features are linked with underlying cognitive operations. What is more urgently needed, he argues, is to provide a detailed account of the challenges which these cognitive factors impose on L2 learners' speech development in social interaction, and how these challenges can be overcome. Working towards this broad perspective, the paper suggests that using existing theories of learning such as a *usage-based* approach to language acquisition, and a *transfer-appropriate processing* approach to memory and knowledge retrieval, can be helpful in understanding the wider issues affecting communicative fluency in ways that could open new horizons to understanding and operationalising fluency.

Paper two, from Skehan, Foster and Shum, reports on a study comparing first and second language fluency, in which they examine the influences on fluency caused by the demands of the conceptualisation and formulation stages of speech production. By making a distinction between clause-level and discourse-level fluency, the authors explain the relationship between dysfluencies caused by different demands of processing, and attempt to investigate measures that can represent these two levels of fluency in the light of the need for running parallel processes of macroplanning and microplanning in speech production. The authors argue that distinguishing between discourse-based and clause-based fluency not only provides a more reliable basis for comparing native speaker and non-native speaker fluency, but it allows researchers to identify

and measure the influence of task design on fluency that has so far remained under-researched.

The third paper from De Jong introduces a new lexical perspective to understanding the role of pauses before or during runs in L1 and L2 speech, focusing in depth on the relationship between location of pauses, level of proficiency and use of low frequency vocabulary in spontaneous speech production. De Jong adopts a detailed and systematic statistical approach to analysing data from Turkish and English L2 Dutch speakers on the one hand and L1 Dutch speakers on the other. The analysis demonstrates important differences between pause patterns external and internal to utterances (defined here in the well-established sense of AS units – Foster et al., 2000), and finds significant connections between frequency of words and pause location. However, in both dimensions, such pausing patterns were more similar than different across both L1 and L2 speech. The findings of the study are crucial to our understanding of existing speech production models, as they provide robust evidence to support the claim that pausing can be the opportunity for conceptual planning not only in L1 but also L2 production processes (see also Skehan et al. in this volume). The other key contribution De Jong's study makes to the field is the introduction of lexical frequency as another contextual factor to be taken into account in pausing patterns, regardless of the degree of automaticity with which the language is produced.

In paper four, Tavakoli challenges current approaches to defining and measuring L2 fluency, and argues that research in this area has paid minimal attention to conceptualising and operationalising fluency in interaction – i. e. in dialogic mode. By comparing the performance of L2 speakers on both monologic and dialogic tasks, Tavakoli's paper demonstrates the differences between the same speaker's fluency profiles in the two modes, and indicates which measures can more reliably capture fluency in each mode. She includes some of the principles of discourse analysis and conversation analysis for analysing aspects of fluency in a dialogic performance, particularly in relation to the very thorny and under-researched issue of what role is played by pauses in-between turns. Like Segalowitz, she thus adds a discourse dimension for operationalising and measuring interactive features of temporal fluency, in a new direction for researching communicative speech.

In the final fifth paper, Kormos and Préfontaine add a novel perspective to discussions of L2 fluency by considering how L2 speech is perceived by the listener. This brings a more holistic approach to the construct of L2 fluency, by advocating the notion that fluency as "speech competence" also involves being successfully comprehended, not just produced. Listener ratings of fluency have been studied before, often using generic ratings to see how listeners perceive rate, effortlessness, richness of vocabulary and comprehensibility, but Kormos

and Préfontaine promote the importance of more qualitative perceptions in terms of prosody and stress patterns at suprasegmental or discourse level. They present data from a cross-sectional study of adult English learners of French on immersion programmes in Canada, across a range of proficiency levels, performing narrative tasks using differing levels of task complexity. Naïve raters, who were deliberately not given a prior definition of fluency, were asked to write their impressions of what most influenced their perceptions of L2 fluency in French, which were then subjected to careful thematic analysis. Raters valued, as in other studies, temporal measures such as speech rate, number of pauses and amount of self-correction, but they also highlighted their prioritisation of rhythm and stress over the temporal measures. The study thus foregrounds the importance in gaining speech fluency of developing L2-based prosody, which can remain challenging even at high levels of proficiency. This becomes particularly important for overcoming transfer effects from non-stress-timed languages such as English, when acquiring French or other stress-timed languages.

By combining the range of perspectives here across different aspects of L2 fluency, investigating both theoretical and empirical issues, this special issue brings much-needed light on the complexities involved in defining and measuring L2 fluency, and drives forward the research agenda on L2 fluency and its place in SLA research. We promote in this collection a new way of operationalising L2 speech research by bringing together approaches based on specific utterance-level analysis with work investigating how speech fluency is affected by social and contextual demands. Inevitably, in broadening the field of enquiry, and deliberately setting out to bring different research paradigms together, we raise questions of how to assure rigour, systematicity and clarity in working on fluency as such a multi-faceted construct. It is important to engage with these questions to avoid L2 fluency becoming too narrow. Back in 1979 Fillmore identified four dimensions of L1 fluency as time filled with talk, incorporating semantic density, communicative appropriacy and creative, imaginative use of language. This is recognisably the basis of the goal of communicative competence that has underpinned much modern L2 teaching but that can elude so many L2 learners. We hope in this issue we have re-emphasised the value for SLA research on fluency of moving away from narrow if rigorous analysis of the temporal dimension in Fillmore's original model. We suggest it may be better to talk not of fluency, but fluencies, as a way of capturing both the breadth and depth of L2 speech research going forward within this new utterance/discourse perspective – in this way we can find new research insights to refresh the value to teachers and learners of what communicative competence really is.

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