Acquiring L2 Speech:
A Current Overview of Second Language Speech Acquisition Research

L2スピーチ習得：
第二言語スピーチ獲得研究の概観

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Abstract

The aim of this paper is to produce a fairly complete picture of what is involved in acquiring and developing the ability to speak in a second language, based on foundational and recent speaking-related research in the field of second language acquisition（SLA）. Doing so first requires an understanding of the cognitive processes associated with speech production. Therefore, this paper begins with a description of a bilingual cognitive speaking model developed by Kormos（2006）, who based his own model largely on the modular L1 cognitive speaking model hypothesized by Levelt（1999）. This is followed by a description of how L2 speaking ability is acquired in reference to that cognitive model, based on foundational and recent internationally-published second language-speech research. This paper concludes with a list of practical suggestions for learners and teachers of L2 speech.

Acquiring L2 Speech: A Current Overview of Second Language Speech Acquisition

How does a person learn to speak in a second language? If you are a child, then most researchers in the field of second language acquisition（SLA）agree that simply interacting and communicating with other speakers of the second language will likely lead you to become proficient. However, although some researchers believe that this method is also sufficient for adult learners, most L2 research suggests that adults only learn to speak a second language proficiently after they have engaged in hours of deliberate practice. Because of this, one of the primary interests of SLA researchers is understanding the cognitive processes involved in L2 speech acquisition and production among second language-speaking adults. Kormos（2006）has developed a bilingual cognitive model of speech processing, based on Levelt's（1999）modular theory of speech processing, which has been widely accepted and has led to new research since. Kormos's model, and research into speech-related areas such as the effect of independent learner variables on speech acquisition, long-term patterns of vocabulary growth and grammatical sophistication evidence provided by L2 speakers, and the features that cause L2 speakers to be perceived having higher proficiency by native L2-speaking raters, have helped researchers to devise hypotheses

regarding the kinds of activities that learners can undertake in order to develop their speaking ability most efficiently. This paper provides an overview of modern research in these areas, and describes where theories of SLA speech development currently stand.

The Cognitive Processes of L1 and L2 Speaking

Theories of L1 Speech

The modular theory of speech processing proposed by Levelt (1999) has been the most influential theory in the study of L1 and L2 speech (Kormos, 2006). This model is labeled *modular* to account for the idea that autonomous mental modules are involved in the development and production of specific aspects of oral output. According to Levelt, lexical knowledge (including word meanings and the conceptual and syntactic knowledge associated with them), knowledge of gestural articulation procedures (the physical aspects of verbal articulation), and speakers' background knowledge (their general world information, as well as conversation- and discoursal-specific knowledge) are contained in separate knowledge stores, or *modules*, within the brain. Levelt hypothesized that each different type of knowledge is processed by one of three mental modules during speech production. He labels these modules as the *conceptualizer*, the *formulator*, and the *articulator*. The conceptualizer module allows speakers to create preverbal plans by making organizational choices (e.g., sequencing events to be described) and discoursal choices (e.g., deciding whether to speak in a formal or informal register).

Once the preverbal plan has been created, the formulator is said to be responsible for the lexical and grammatical encoding process. The formulator retrieves lexical information from the mental lexicon, which contains lemmas (syntactic information related to the lexical item) and lexemes (morpho-phonological information). Through this process, the speaker retrieves lemmas which are deemed to best represent the preverbal plan. Activation of lexis for this purpose triggers related syntactic building procedures.

In the articulator, morpho-phonological information (morphemes and metrical features) is retrieved that is associated with the lexis chosen during the encoding phase. This results in the creation of a phonological store, which is also known as *internal speech*. Once the internal speech has been developed, phonological encoding draws on articulatory gestures from the speaker's mental syllabary, and overt speech is produced.

According to Levelt (1999), speech in this model is always produced from the conceptualizer downward. That is, all speech begins as concepts in the mind of the speaker, which are then grammatically and lexically encoded and, finally, articulated verbally. Recently, aspects of the spreading activation model of speech—an alternatively hypothesized speech model—also have been incorporated to account for phenomenon such as slips of the tongue. For example, if the concept of a *dog* is activated in the conceptualizer then, according to Levelt's model, there is no reason why *cat* should be spoken. Yet, mid-speech mistakes such as this one are a common phenomenon. To account for this, spreading activation theorists assume that when one lexical concept is selected other related concepts are also

activated.

L2 Theories of Speech

Kormos（2006）uses Levelt's（1999）model as a foundation for her own cognitive model of L2 speech production, while also integrating aspects of the spreading activation model of speech. Kormos（2006）disagrees with Levelt that different types of knowledge are kept in separate knowledge stores, and instead proposes that all knowledge necessary for speech is stored in a single-memory bank, which she labels as "long-term memory." Within that information bank, sub-systems of information exist. This helps to explain several of the difficulties that L2 speakers encounter when trying to orally produce newly-learned L2 features. In terms of processing via the conceptualizer, most L2 learners will already have a vast store of conceptual knowledge built up in their minds based on their life experience. These are the concepts that the speaker will access when developing their preverbal plan, even when L2 lexical tags are chosen to represent those concepts. This can be problematic when concepts associated with the culture of one language do not align with the culture of the L2 language. Over time, the L2 learner can develop a more sophisticated understanding of how similar L1 and L2 concepts differ in reference to L1 and L2 language cultures.

In terms of the formulator, Kormos' model assumes that when L2 lexis and grammatical rules are learned, they are stored along with L1 lexical and syntactic knowledge. The result is that both L1 and L2 language knowledge is simultaneously activated when matching conceptual specifications arise in the conceptualizer. The related lexical items compete for selection, which often leads to slowed speech as a result of the increased focus necessary to choose the L2 item and to inhibit the activated L1 lexical item. Furthermore, the formulator will attempt to encode the concepts from the conceptualizer into grammatical patterns based on（a）the grammatical structure acquired through the speaker's L1, and（b）the syntactic information attached to lexical items which labels them for part of speech. When an L2 is spoken this can be problematic, as when an L2's grammar structure varies considerably from that of the L1, or when L2 lexis do not exactly match the part-of-speech of analogous L1 items.

Lower-proficiency L2 learners also depend on the articulatory knowledge of their L1 to produce their L2 through the articulator. Even when speakers of an L2 explicitly learn the differences between how words in their L1 and L2 are articulated, it can be extremely difficult even for high-proficiency L2 learners to orally produce their L2 with correct pronunciation. This is likely because the articulator is strongly linked to muscle memory, and because speaking an L2 often requires flexing one's mouth muscles in ways that the speaker might not be accustomed to. L2 speakers must also learn how native speakers both articulate and pragmatically use features such as syllabic emphasis and elisions.

Acquiring the Ability to Speak in a Second Language

It is generally agreed in the field of SLA that a sensitive period exists in which learners can implicitly acquire the ability to understand and produce a language, but that this period ends between the

ages of 11 to 18 (Lightbown & Spada, 2013). Once this period has passed, language proficiency is believed to be acquired in the same way as other skills: through declarative knowledge acquisition, the development of automatic mental encoding procedures, and the memorization of responses to frequent stimuli (Anderson, 1982; Kormos, 2006). Kormos identifies two basic types of knowledge connected with L2 speech: These are lexical knowledge, including the semantic, syntactic, stylistic, pragmatic, and idiomatic characteristics of words; and rules of grammatical and phonological encoding. Grammatical encoding processes can become automatized with practice in which speakers produce utterances that are both grammatically correct and in which the grammar accurately represents the concepts from the speakers' preverbal plan. Acquisition of words in L2 production involves the creation of lemma through memory traces. It also involves establishing the semantic referent of the lemma in the conceptual system, and new L2 specific semantic, stylistic, and pragmatic characteristics are created slowly in the acquisition process. Larger production units in the form of formulaic expressions also can be developed to ease processing and allow the learner to express a wider array of communicative intentions.

L2 speakers gain new declarative L2 knowledge related to speech production when their attention is explicitly drawn to it, so that it becomes "noticed" by the learner. This theory, first proposed by Schmidt (1990), recently was supported by Lyster and Saito's (2010) meta-analysis of 15 classroom-based studies of corrective feedback use during speaking tasks. In this study, Lyster and Saito investigated the outcomes of corrective feedback use in terms of several variables, including feedback type and timing of outcome measures. Overall, the results of the studies that they reviewed showed that learners who received explicit forms of feedback—particularly types, such as prompts, which led the learners to produce their L2 accurately and thereby to provide evidence of noticing—achieved the greatest language gains in both immediate and delayed posttests. Learners who received feedback during oral interaction also improved their speaking accuracy more than learners who received feedback after the speaking task. This evidence supports the conclusion that L2 knowledge is more likely to be made salient to learners if it is directly related to their own speech, and helps them to more clearly say what they want to say. Similarly, Stafford, Bowden, and Sanz (2012) found evidence that learners might require deductive (explicit) instruction through metalinguistic grammar explanations in order to learn to advance their productive grammatical accuracy. In their study, 65 Spanish-English bilingual learners were taught to interpret agent/patient roles in Latin through a computer program. Although practice before a test and less-explicit feedback were shown to benefit participants' ability to interpret Latin case morphology, only groups who practiced and received metalinguistic feedback (explicit explanations of how the grammar system works) demonstrated an increased ability to produce correct examples of Latin case morphology. This suggests that learners need to have a clear understanding of L2 grammatical rules declaratively if they are to use those rules to produce and proceduralize syntactically correct utterances.

The results of both of these studies suggest that when learners are led to notice their mistakes, or when they are taught new vocabulary or grammar rules explicitly, that they are more likely to improve as L2 speakers. However, as mentioned previously, for learners to produce skills or knowledge rapidly they

must also practice using those skills. It was once believed that both L2 receptive and productive skills could be acquired through receptive processing alone (Krashen, 1985), but an abundance of research has demonstrated that L2 learners need to practice producing the L2 in order to develop productive skills beyond a basic level of proficiency. Theories by Swain (1985) and Long (1996) have been commonly used to explain the unique ways in which communicative practice supports speech development. Swain (1985) proposed that producing output allows speakers to (a) test hypotheses about correct language use in different contexts, (b) monitor for and notice errors produced in their output, (c) consider their errors and reform their understanding of the language, and (d) access similar language features multiple times, thereby strengthening recall and the rapid use of those features. Later, Long (1996) suggested that communicative interactions (as opposed to monologues) were particularly important for the development of L2 speaking ability, as failures in interactions force speakers to reformulate their speech until they can make themselves understood by the interlocutor. Mackey (2007) describes the benefits of communicative interaction, writing that feedback received by interlocutors helps L2 learners to raise their awareness of form-meaning mapping, notice new linguistic features, and, in instances of communication breakdowns, push learners to produce more accurate modified output.

De Bot (1996) explains this developmental process in terms of Levelt's (1999) model, and concludes that the primary purpose of output is to strengthen the process in which the preverbal plan (created in the conceptualizer) is encoded in the formulator. Negative feedback provided by an interlocutor during interaction allows the speaker to produce memory traces that allow for a more correct syntactic and discoursal understanding of the language that they had attempted to use. Speakers thereby increase the likelihood that they will use the same language correctly in the future, and also refine their L2-specific conceptual knowledge. Furthermore, by frequently encountering the same lexis and syntax in conversation, more additional memory traces are developed, which allows for the language to be retrieved more quickly later, thereby resulting in developed speaking fluency.

The notion that speaking ability is best developed through speaking was more recently supported by Muranoi (2007), who reviewed the outcomes of comprehension versus production practice in both L2 speaking and writing that were produced in several classroom-based SLA studies. When comparing comprehension and production practice, Muranoi found that, although input processing develops comprehension skills, meaningful (as opposed to mechanical, language-focused) output production appears to develop output skills. This is in accordance with Anderson's (1982) theory of skill-specific proceduralization. The studies of output practice that Muranoi (2007) reviewed also supported Long's (1996) Input Hypothesis, which I described previously. Furthermore, Muranoi's review suggested that different kinds of interactions, engaged in through in-class speaking tasks, were shown to lead to the development of different features of speech. For example, task repetition was shown to lead to task improvement, but not necessarily to transferable gains. Furthermore, story creation tasks were associated with the need to develop semantically complex language, resulting in more semantically complex output on more complex tasks and increased fluency on less complex tasks.

Allocating Attentional Resources

There are several features of speech, and speakers do not appear to develop them all at equal rates. Skehan（2009）identified four primary features of spoken output: *syntactic complexity, morpho-syntactic accuracy, lexical usage*, and *spoken fluency*（defined as fluid and rapid speech）. These features are commonly referred to as CALF—

Complexity, Accuracy, Lexis, and Fluency—components of speaking. Common measures of syntactic complexity include number of clauses spoken, variety of syntactic features used, and the degree of perceived difficulty of use based on studies of L2 developmental sequences of grammar acquisition. Lexical complexity is often measured via the ratio of word tokens to total words used, and through measures of lexical sophistication, and syntactic accuracy is often rated as a ratio of incorrect-to-correct grammar usage. The use of pauses（filled and unfilled）, the use of repairs（through reformulation, repetition, false starts, and replacements）, and speed measures such as syllables-per-minute spoken, can all be used to rate fluency.

As described previously, Levelt's（1999）model assumes that speech is produced through three modules, and that native language speakers have automatized these process of speech formulation from one module to the next. L2 speakers, on the other hand, need to devote their attentional resources to processing language at the conceptual, grammatical-lexical, and articulatory stages. Because learners' attentional resources are limited, L2 speakers need to decide whether to allocate those resources more to the conceptualizer（preverbal planning）, the formulator（linguistic encoding）, or the articulator（muscular speech production）. This explains the trade-off between the production of syntactic and lexical complexity and morpho-syntactic accuracy in most L2 speaking tasks performed by non-advanced L2 learners（Skehan, 2009）. For example, in his review of the effects of speaking tasks on features of participants' spoken output, Skehan found that narrative tasks, which do not allow for much negotiation of the language and therefore likely tax the formulator, resulted in more lexical sophistication. Meanwhile, decision-making tasks, which require more planning and give speakers more freedom to choose their wording, resulted in more fluency due to the use of more high-frequency words, as well as more syntactic complexity due to the necessity for more conceptual planning. Skehan proposed that conceptualizer-oriented tasks, such as story-creating tasks, require speakers to organize and integrate more demanding information, which results in greater language complexity at the expense of grammatical accuracy. Narrative tasks, however, require the use of specific language, which puts pressure on the formulator to encode the preverbal message using specific vocabulary and grammar structures. Sometimes the use of these modules can be balanced, such as in chronological storytelling tasks. In these tasks, the speaker can draw on a clear macrostructure, thereby easing pressure from the conceptualizer. Meanwhile, more attention can be paid to the formulator, perhaps resulting in greater syntactic accuracy and complexity. In short, different tasks require speakers to prioritize the use of different processes. Therefore, to practice and become better at producing both accurate and complex language, speakers should engage in a variety of tasks which provide them with opportunities to become better at doing so.

Although a trade-off appears to exist between the development of complexity and accuracy, fluency has been shown to develop in most tasks. This makes sense, because oral fluency is considered to be evidence of speech processes that have been proceduralized. However, specific tasks can specifically target oral fluency development. On such task is the popular 4/3/2 task, in which speakers are given planning time, and then asked to give a four-minute monologue about a topic to a partner. Speakers then repeat the task for three minutes with a second partner, and finally for two minutes with a third partner, with the goal being to speak faster during the second the third turns. Within this task, de Jong and Perfetti (2011) found that L2 English university undergraduate students performed better when they engaged in the 4/3/2 task over several weeks, and when they were given multiple opportunities to speak about the same topic within a single 4/3/2 session. This is in-line with the theory of skill proceduralization (Anderson, 1982) that was described earlier in this paper. If learners speak about the same topic within a single 4/3/2 task then, theoretically, they will have made most of their preverbal planning and coding decisions by the time they have finished the first round of speech. With that pressure relieved, the speaker can focus on performing the same task better more quickly and with more accurate language. Furthermore, by speaking about different topics in different sessions, but through a similar task type (a spoken monologue), speakers can use similar discoursal organization patterns (associated with the conceptualizer) to discuss different topics. This means that learners practice transferring the skill of organizing discourse from one context to another. As predicted, the fluency gains made by leaners in the de Jong and Perfetti (2011) study were both transferrable to new topics and were still evident in a posttest measurement.

Furthermore, because proceduralization is the product of practice, time-on-task is a major factor in task proceduralization, and therefore in the development of spoken fluency. Du (2013) investigated the effect that time-on-task had on the ability of American learners of Mandarin to increase their spoken fluency of that language. Unsurprisingly, she found that learners who made the greatest fluency gains were the ones who spoke Mandarin often (or exclusively) during their time in China. Du also found that the largest detected fluency gains were made within the first month of the four-month program, which suggests that significant fluency gains can be achieved in a relatively brief period of time.

Shehan (2009) also wrote that different types of task planning might have different effects on speaking outcomes. A review of studies by Ellis (2009) showed this to be the case. In his review, Ellis identified three main types of task planning: (a) *rehearsal*, in which performers have an opportunity to complete a task at least once before performing it a second time; (b) *strategic planning*, in which participants have time to plan what content to express and what language to use, but do not have the opportunity to rehearse; and (c) *within-task planning*, which can be pressured (learners perform a task under a strict time limit) or unpressured (learners are given much or unlimited time to perform a task). Rehearsal was shown to generally result in increased fluency and complexity development, but not in increased accuracy. Furthermore, the language gains made did not appear to be acquired or transferable. This can be explained through limited time-on-task, and by the fact that participants did not practice

using similar preverbal planning procedures in different contexts. Strategic planning was found to have the greatest impact on oral fluency, but produced mixed results in terms of complexity and accuracy development. It is likely that the task type（dictation vs. storytelling, for example）was the determining factor in these studies.

The CALF measures, as well as articulatory factors（segmental and suprasegmental speech features）have been shown to account largely for what native L1 raters consider to be functional, or communicative, adequacy. However, native judges also appear to take other features of speech into account. De Jong, Steinel, Florjin, Schoonen, and Hulstijn（2012）examined the performance of 181 L2 and 54 native speakers of Dutch on eight speaking tasks, and six tasks used to measure nine linguistic skills. Speaking tasks differed by formality, discourse genre, and topic complexity, and participants' performances were rated holistically by a panel of judges based on the speakers' perceived functional adequacy. Using structural equation modeling, De Jong et al. measured participants' vocabulary and grammar knowledge, speed of processing（lexical retrieval speed, response latency and duration, and speed of sentence building）, and pronunciation ability（variety of speech sounds, word stress in multisyllable words, and intonation）through these tasks. They found that these measures accounted for 76% of the variance in functional adequacy ratings, with vocabulary knowledge and intonation accounting for the highest amount of the variance. It was also found by Iwashita, Brown, McNamara, and O'Hagan（2008）in a review of 250 speech samples produced by English L2 learners of various L1 backgrounds, that an L2 speaker's perceived communicative adequacy could largely be predicted by their demonstrated L2 vocabulary knowledge, . However, they found that fluency, rather than intonation, was also highly predictive. In a more recent study, Révész, Ekiert, and Torgensen（2016）investigated the predictive ability of complexity, accuracy, and fluency on judged communicative adequacy based on five speaking task types and four proficiency levels among 20 native and 80 non-native English speakers. Similar to the results of Iwashita et al.'s（2008）study, fluency was found to be the highest predictor of communicative adequacy, with a low number of filled-pauses being most closely linked to high perceived adequacy. For advanced speakers, incidences of false starts also emerged as predictive of communicative adequacy.

All the above studies noted that CALF measures can differ among speakers who receive similar general communicative adequacy ratings. This suggests that CALF and articulation measurements do not completely determine how "adequate" a speaker is, and as written above, these variables only accounted for 76% of variance in adequacy scores among participants in de Jong et al.'s（2012）study. Whereas these components are largely related to processing speed, particularly of grammar encoding and lexical retrieval, some of the remaining 24% might be accounted for by knowledge sophistication, i.e., developing a better understanding, rather than faster access, of language. This first could relate to pragmatic knowledge use. For example, in Japanese, learning polite language（*keigo*）requires first learning the verb and verb-inflections which constitute that register, as well as the grammatical rules relating to verb inflection and the attachment of polite-form verb endings. However, once encoding

process has been mastered, learners could then, in Swain's words, engage in *hypothesis testing* by using the polite register in various contexts. Learning the sociocultural aspects of language in this way can help learners to appear more communicatively competent. Developing a better understanding of language also means learning about collocations, which can be especially difficult. Although an L2 English speaker would probably know the meanings for "make" and "out," the speaker would need to encounter a context in which those words were spoken together to understand that "to make out" can mean "to distinguish." Speaking such commonly-used collocations also can make a learner sound more proficient.

Certain CALF measures have also been shown to have different degrees of predictive validity depending on the L2 being investigated. Baker-Smemoe, Dewey, Bown, and Martinsen (2014) found that some measures of fluency are highly predictive of rated L2 speaking adequacy in many L2s, but that other aspects were L2-specific. For this study, 126 analyzed speech samples of 30-minute ACTFL Oral Proficiency Interviews produced by 86 native English speakers were obtained, with participants' L2s including French, German, Japanese, Russian, or Arabic. The data was analyzed for aspects of fluency, including speed aspects (syllables per second, number of runs, and average length of run), breakdowns (number and length of pauses), and repair fluency (number of hesitations and false starts). Baker-Smemoe et al. found that, regardless of L2, higher proficiency speakers produced faster and longer utterances, and fewer breakdowns, than lower-proficiency speakers, but that the number of hesitations and false starts were not significantly different. However, length of runs, number of runs, and number of hesitations were significantly different among learners of French, German, and Arabic when proficiency was controlled for.

Norris and Ortega (2009) argue that such subcomponents of fluency measurements should be given more consideration in future studies. In particular, they found that many subcomponents of fluency measurements overlap in studies, which could be responsible for statistical errors and erroneous conclusions. They also argue that researchers should account for the fact that development of all CALF features is a dynamic process, and that more "organic and sustainable" practices should be used to measure them.

ID Variables

Beyond task variables, individual differences in terms of motivation and aptitude have also been shown to play a substantial role in the development of L2 speaking proficiency. Hernández (2010) found a strong link between American learners' instrumental motivation and the L2 language gains that they made while studying in Spain. The participants who made the greatest fluency gains primarily listed "speaking Spanish with native speakers" as their most engaged-in out-of-class Spanish-related activity. As with Du's (2013) study, these students reported more time-on-task, which led them to increase their spoken fluency ability. Hernández concluded that, although causation could not be established, the link between instrumental motivation and language gains was statistically significant.

Another ID variable that has been investigated is aptitude and L2 speaking proficiency (as rated

through CALF measures). In 2012 Kormos and Trebits found that the ability to inductively learn grammar rules through examples of language use—as measures through *grammatical sensitivity* scores—and rote learning ability, led to better performance on picture storytelling tasks. Meanwhile, learners with low grammatical sensitive scores performed well on oral narration tasks. Kormos and Trebits concluded that different aptitudes are beneficial for different kinds of speaking tasks. Because the oral narration tasks required speakers to incorporate non-sequential information into their narratives, Kromos and Trebits suggested that this task might have favored speakers with low grammatical sensitivity scores because they likely allocated their attentional resources towards more conceptual, rather than linguistic, processing. This would explain these speakers' ability to create a better-fitting preverbal plan, but perhaps less sophisticated lexical and grammatical language use, than other speakers, which would have proven advantageous for this task.

Individual differences might also account for the fact that, although specific tasks generally promote usage and acquisition of specific speaking features, developmental trajectories vary by individual. Recently, many researchers who advocate *Dynamic System Theory* have developed "longitudinal, fine-grained, and microgenetic studies to discover individual learning trajectories and the interrelationships of parts within the whole" (Polat & Kim, 2013, p. 186). In two such studies conducted by Polat and Kim, and Spoelman and Verspoor (2010), longitudinal language data was collected from a Turkish-American ESL speaker and a Dutch speaker of L2 Finnish. In both studies, the data—oral interviews produced by the Turkish-American participant, and non-timed academic essays produced by the Dutch speaker of Finnish—were analyzed for changes in various measures of complexity and accuracy production over time. Participants in both studies showed evidence of progress and backsliding, in which particularly large successive peaks and valleys in the data were believed to indicate that an acquisition restructuring of the language processing was occurring within the participants. Accuracy was found to settle "rapidly," as basic grammatical features were acquired and used more frequently by the participant than more complex, less-frequently used syntax. Perhaps the most important finding, reported by both Spoelman and Verspoor (2010) and Polat and Kim (2013), was that no meaningful relationship was found between accuracy and complexity measures over time.

Implications

Several practical implications for the learning and instruction of L2 speech can be derived from modern research in the field of SLA as it stands today. First, research on the effects of speaking tasks on learners' output suggests that learners should engage in a wide variety of speaking tasks and speak about a wide variety of topics. In particular, teachers should be cognizant of which activities promote more syntactically and grammatically complex output, and which activities encourage learners to focus on speaking accurately. Few tasks result in the development of both equally. However, the provision of planning time might better help learners to produce both more complex and accurate output within a single speaking task.

Furthermore, teachers should encourage the development of speaking variables beyond the CALF measures, as learners preparing for a standardized spoken interview tests might be rated more highly if they focus on specific speaking skills. According to the research described in this paper, speakers are usually rated more highly if they exhibit high levels of fluency (i.e., few pauses), smooth pronunciation, and a wide vocabulary. Learners preparing to take standardized L2 English speaking tests, such as the EIKEN or TOEIC, might be encouraged to focus on the development of these skills for that purpose.

Beyond designing a curriculum that offers learners opportunities to engage in a variety of task types, teachers also should provide learners with corrective feedback that encourages deep processing. Lyster and Saito's (2010) study suggests that feedback should be given as quickly after an error is made as possible, and teachers should encourage learners to provide evidence in the form of correctly reformulated speech. In large classes, activities which encourage learners to notice and correct common grammatical errors can be used.

Conclusion

In this paper I have provided an up-to-date overview of SLA speech research as it stands at the time of this manuscript's publication. Some older works, such as Levelt's (1999) theory of speech development and Kormos's (2006) adaption of that theory to L2 speech processing, remain foundational. This decade has seen a focus on the development of CALF features of speech, corrective feedback, and the use of Dynamic Systems Theory to analyze learners' L2 speech development in-depth, longitudinally. More research will continue to be needed in these areas in the future.

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L2スピーチ習得：
第二言語スピーチ獲得研究の概観

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要旨

本論考の目的は、第二言語スピーチ能力の獲得・発達に関わる諸要因について、基盤となる、また最新のSLAスピーキング研究を概観することにある。このためには、スピーチ産出に関わる認知プロセスを理解する必要がある。ゆえに、まずは、Levelt（1999）によって提唱されたmodular L1 cognitive speaking modelに主として基づくKormos（2006）のbilingual cognitive speaking modelを扱う。次に、この認知モデルを参照しつつ、基盤的な、また最新の海外主要論文に掲載されたL2スピーチ研究の知見に基づき、L2 スピーキング能力の習得過程を説明する。最後に、L2スピーチ学習者・教員への実践的な提案を行う。