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# Discourse Intonation and Speaking English as a Second Language

John P. Broderick

This article closely analyzes the deployment of discourse intonation in video and audio recordings of adult speakers of English as a Second Language (ESL). The speakers held university degrees and were enrolled in an intermediate/advanced-level conversation class that was part of an intensive program at an American university, preparing them to meet admission requirements for graduate study in the United States.

The data sample studied here was originally elicited by Carolyn M. El-Kadi as part of a study of classroom interaction (El-Kadi 1994 and 1996). I am most grateful to Dr. El-Kadi for her permission to analyze some of her data for a somewhat different purpose in this study. The focus here is on very detailed analysis of a small segment of data (approximately three minutes of video and audio recordings of a conversation between a teacher and three adult learners of English as a Second Language).

The analytical methodology used in this study is based on the work of American linguist Wallace Chafe and British linguists Michael Halliday, David Brazil, Malcolm Coulthard, and Catherine Johns. The unit of analysis is the intonation unit. Chafe's notion of consciousness is at the core of the analysis, as is his particular view of the intonation unit as the primary locus in language where the signaling of the status of information in consciousness is realized. Chafe posits three statuses that information can have in consciousness (active, semiactive, or inactive)

and three parallel modes of verbalizing the three kinds of information (given, accessible, and new). Typically, a falling or rising nuclear tone verbalizes new information, and a fall-rise nuclear tone verbalizes accessible information. Given information is typically verbalized by phonologically nonprominent syllables in intonation units.

The plan of the article is as follows: (a) Review certain analytical concepts that are central to the research methodology used in this study. (b) Describe the design of the study. (c) Report the results of the analysis, discuss the results, and briefly relate them to classroom practice in teaching English as a second language.

## REVIEW OF ANALYTICAL CONCEPTS

Let us begin our review of analytical concepts with a brief discussion of Wallace Chafe's views concerning consciousness and the status of ideas in consciousness during conversational interaction.

### Introduction to the Work of Wallace Chafe

For nearly thirty years, Wallace Chafe has been developing a comprehensive, coherent, and highly creative model of spoken discourse that has shed interesting new light on the relationship between cognitive experience and language. Throughout his career, he has based his research on careful analysis of naturally occurring language data. During the 1970s and '80s, Chafe published a series

of articles addressing issues such as the relationship between discourse structure and human knowledge (1972) and between language and consciousness (1974). He also wrote about givenness, contrastiveness, definiteness, subjects, and topics in discourse (1976); about the relationship between knowledge, experience, and verbalization (1977a, 1977b, and 1979); and about cognitive constraints on the deployment of consciousness and on the flow of information (1980, 1987, and 1988). In 1994, he published a landmark book-length synthesis of these and other ideas entitled *Discourse, Consciousness, and Time: The Flow and Displacement of Conscious Experience in Speaking and Writing*.

At the core of Chafe's work are (a) his particular notion of consciousness as the cognitive capacity in humans that makes coherent spoken discourse possible and (b) his particular view of the intonation unit as the primary locus in language where the operations of consciousness are realized. Even though he has addressed many discourse issues besides these two, the intonation unit and its relation to the flow of consciousness are central to his work.

There are many other linguistic researchers (cf. in particular Halliday 1967; Brazil, Coulthard, and Johns 1980; and Coulthard 1992) who have done insightful work on the same discourse intonation phenomena that interest Chafe, but no other researchers have so explicitly related their work to a theory of consciousness as has Chafe. In the discussion that follows, I will therefore focus on Chafe's ideas, but it should be noted that (especially in the analysis of my own research data) I have also incorporated certain ideas and analytical tools from these other researchers (cf. Broderick 1995 for a description and rationale).

### Wallace Chafe's Definition of Consciousness

For Chafe, consciousness is above all a process, a "limited activation process

... an active focusing on a small part of the conscious being's self-centered model of the surrounding world" (1994, 28). That is, at any given moment, only a small portion of the vast store of knowledge that a person possesses can have the special status that consciousness confers. Chafe compares consciousness to vision, stating that it has a focus that is embedded in a surrounding periphery. For example, if you are paying attention to the language of this article, I have just activated the idea of "paying attention" in your focal consciousness, and at this moment, i.e., before I now mention them again, the names Michael Halliday, David Brazil, Malcolm Coulthard, and Catherine Johns were in your peripheral consciousness. At the moment I just mentioned those names, they were reactivated in your focal consciousness. After the next few intonation units, those names will be back in peripheral consciousness, and if I do not mention them for a paragraph or two, they may fade from peripheral consciousness as well. And so it goes.

We have just seen an example of how items introduced by a speaker or writer in the language of a discourse will activate or reactivate ideas in consciousness. But the environment in which communication takes place also plays a role. Until I mention it now, the chair you are sitting in was in your peripheral consciousness simply by virtue of being perceptible. Now, of course, I have used language fully to activate it in your focal consciousness. But unless it is reactivated, it too, like the names Halliday, Brazil, Coulthard, and Johns will quickly be replaced by something else.

For these reasons, Chafe characterizes consciousness as *dynamic*: information constantly flows into and out of both focal (i.e., active) and peripheral (i.e., semiactive) consciousness (29–30). That consciousness has a focus and a periphery and that consciousness is dynamic are what Chafe calls *constant* properties

of consciousness, as is the fact that consciousness has a point of view (in ordinary conversational language it is self-centered; in fiction, point of view can be manipulated in various ways). Another constant property of consciousness is that it needs to be oriented in space and time (30). (Chafe notes that a person, knocked out, upon regaining consciousness, asks, "Where am I?" "What time is it?")

Consciousness also has several variable properties (30–35): (a) Conscious experiences can arise from different sources (perceptible events, feelings, introspections). (b) Conscious experiences can be "immediate" (i.e., based on what one is perceiving, doing, feeling at the moment) or "displaced" (i.e., based on remembering or imagining) (cf. also Broderick 1999). (c) Conscious experiences can be factual or fictional. (d) Conscious experiences can be more, or less, interesting. (e) Conscious experiences can be verbal or nonverbal.

Though its essence is that of a dynamic process, Chafe also refers to consciousness as a place: "the crucial interface between the conscious being and his or her environment, the locus of remembering, imagining, evaluating, and speaking, and thus central to the functioning of the mind" (40).

### The Intonation Unit

Before defining the intonation unit and its relationship to the flow of consciousness, Chafe briefly discusses "echoic" memory, the phenomenon, long noted by psychologists, whereby sound remains briefly available to consciousness after it is physically over. The intonation unit is, according to Chafe, "a unit of mental and linguistic processing . . . that seems to be of exactly the right size to be processed in its entirety with the help of echoic memory" (55).

In his 1987 article, "Cognitive Constraints on Information Flow," Chafe defined the intonation unit as "a

sequence of words combined under a single, coherent intonation contour, usually preceded by a pause" (22). He went on in that article to add that the intonation unit is the vehicle of expression of temporarily activated information, that it typically contains about 5 or 6 words, and that intonation units typically begin about 2 seconds apart (22). In his 1994 book, he elaborates considerably. In discussing those elaborations, I will be referring to the intonation unit transcribed in 1a and 1b:

(1a) .. and so the **háll** is rèal ló=ng%.

(1b) .. and so the háll is rèal ló=ng.

Chafe uses the term "accent" to refer to syllable prominences that are realized as pitch deviations from a mid or neutral baseline, usually higher, but perhaps lower. He transcribes what he calls primary accent with an acute accent mark, which indicates that the pitch deviation is accompanied by extra loudness and/or length. He transcribes secondary accent with a grave accent mark, which indicates that the pitch deviation is not accompanied by extra loudness or length. Presumably, the type of pitch deviation, loudness, and length involved in "accent" are of a qualitatively different kind from similar phenomena associated with what is usually called "word stress"; however, Chafe does not explicitly say this.

My cited example 1a is an exact replication of an example of an intonation unit that Chafe discusses at length in his book (1994, 58–61). He says that this is a detailed "narrow" transcription (59). Throughout his book, intonation units are in fact represented in a less detailed "broad" transcription such as I have provided in 1b.

Let us now look at additional aspects of Chafe's definition of the intonation unit. First, intonation units are often, but not always, separated by pauses. Short pauses (of less than 0.2 seconds) are transcribed with two periods. Pauses of between 0.2 seconds and one second are

transcribed with three periods. Pauses of longer than one second are transcribed with three periods followed by a number in parentheses indicating the exact length of the pause. (In my own data analysis, I time all pauses of more than 0.2 seconds.) Intonation units are not delineated by pauses alone, because they may occur without a preceding pause, and pauses may also occur within them.

Second, intonation units are in some way delineated by changes in fundamental frequency (the clearest manifestation of the "coherent intonation contour" referred to above). However, Chafe explicitly asserts that they need not be limited to one primary accent as is "arbitrarily required [of the tone unit] in the British tradition" (58). (In my own data analysis, I have in fact adopted the British convention of limiting each intonation unit to one primary accent. For my rationale, see Broderick 1995.)

Third, changes in duration can help delineate intonation units. The smaller type font transcribing syllables toward the beginning of 1a indicates rapid articulation (Chafe borrows the poetic term "anacrusis" as a label for this phenomenon). The equal sign after the vowel in the last syllable of the intonation unit in 1a indicates lengthening. He says this speeding up at the beginning and slowing down at the end of intonation units is common.

Fourth, he says changes in voice quality of various kinds can also accompany intonation unit boundaries. The percent sign at the end of 1a is used to transcribe what Chafe characterizes as "creaky voice (laryngealization or 'fry')" (60).

Fifth, intonation units end in an identifiable intonation contour. Chafe lists three possibilities: a falling contour beginning on the last primary accented syllable in the intonation unit, which is transcribed with a period, as in 1a and 1b above; a rising contour, transcribed with a question mark; and what he characterizes as "everything else" (i.e., contours

indicating continuation), transcribed with a comma. If an intonation unit is cut off, or in some other way clearly missing a terminal contour, then no terminal punctuation is used in the transcription. (In my own data analysis, I distinguish between two contours indicating continuation: a comma to mark a fall-rise tone, which seems consistently to appear in intonation units verbalizing accessible information, and a double dash to mark a level tone, which seems consistently to appear in intonation units where the speaker is concerned more with inner thoughts rather than with assessing the status of information in the listener's consciousness and marking its verbalization accordingly. For my rationale, see Broderick 1995.)

Sixth, Chafe points out that intonation researchers have long noted a tendency for intonation units to group into what are called "declination units," sequences of several intonation units throughout which the dominant pitch level gradually falls (59). The points at which these declination units begin and end can also help to delineate intonation unit boundaries.

### Given, Accessible, and New Information

Chafe distinguishes three types of intonation units: fragmentary, regulative, and substantive. Fragmentary units are precisely that: false starts or units cut off by another speaker. Regulatory units are of four types: (a) textual, e.g., "and then" and "well"; (b) interactional, e.g., "mhm" and "you know"; (c) cognitive, e.g., "let me see" and "oh"; and (d) validational, e.g., "maybe" and "I think." However, it is in *substantive* intonation units that the role of consciousness is most apparent in that the cognitive processes that mark givenness, newness, and accessibility have their domain (Chafe 1994, 63–64).

Ideas (events, states, or referents) may have three statuses in relation to consciousness: (a) "active," i.e., "lit up"

in a person's focus of consciousness; (b) "semi-active," i.e., present in a person's peripheral consciousness (the person has background awareness of it, but it is not being actively focused on); and (c) "inactive," i.e., in long-term memory (but neither focally nor peripherally active) (Chafe 1987, 25).

Ideas that are newly activated in consciousness at a given point in a conversation are verbalized as "new." Ideas that are already active in consciousness at a given point in a conversation are verbalized as "given." Ideas that are reactivated from a previously semi-active state are verbalized as "accessible."

Chafe's 1987 article, "Cognitive Constraints on Information Flow," analyzes in great detail and from a number of discourse perspectives a brief narrative taken from a longer conversation. Chafe's transcription of it contains 40 numbered intonation units. In it, the speaker talks about a class he took in college, describing the professor's manner in vivid detail. After introducing the ideas of "a big undergraduate course that I had" and stating that "everybody loved the instructor," the speaker produced the intonation units which I have numbered 2 and 3:

- (2) ... a=nd he was a ... real .. uh .. óld world ... Swíss= ... guy,
- (3) .. this was uh .. a biólogy course,

In 2, the word *he* verbalizes given information, and the words *real old world Swiss* verbalize new information. In 3 the words *this* and *course* verbalize given information, and the word *biology* verbalizes new information. This is because, according to Chafe, "language gives more prominence to new ideas than to given ones, prominence being recognizable in terms of full nouns (more prominent) versus pronouns (less prominent), and strong accent (more prominent) versus weak accent (less prominent)" (1994, 71). These examples of given and new information and Chafe's characterization

of how language typically verbalizes given and new information are entirely representative of a rich tradition of research on this aspect of discourse structure (cf. Chafe 1994, 161–85, for a review of work in that tradition). One of Chafe's special insights is, of course, that such prominences verbalize the status of information in "consciousness" as he has defined it.

His other innovation is the addition of a third information status, "accessible," to the traditional binary distinction between "given" and "new." I have already noted that he asserts that ideas that are "semi-active" in consciousness are verbalized as "accessible." But what exactly does that mean? Let us look at 4, 5, 6, and 7, which are intonation units that occurred later in the same narrative cited in 2 and 3:

- (4) ... a=nd he= .. wou=ld .. immèdiately open his ... nótes up, [*his notes* = "accessible"]
- (5) ... in the front of the róom, [*the room* = "accessible"]
- (6) ... and évery ... évery lecture, [*every lecture* = "accessible"]
- (7) .. stártd the same wáy.

Chafe identifies the following words in 4, 5, and 6 as verbalizing "accessible" information: *his notes* in 4, *the room* in 5, and *every lecture* in 6. Notice that in each case, the cited phrase contains a primary accent, a feature commonly associated with new information. What is it that sets these phrases off as "accessible" rather than new? According to Chafe, they are accessible because they verbalize concepts that belong to a set of expectations associated with a "schema," in this case the schema of a college course (1987, 29).

Another reason to analyze an expression as a verbalization of accessible information is that it reactivates an idea that was mentioned previously but not very recently in a conversation. Here is an example from the same narrative. The intonation unit numbered 2 in this article

occurred very early in Chafe's cited narrative: it was the fourth intonation unit in the 40-intonation-unit segment analyzed in his article. The unit I here number 8 occurred very late in Chafe's analyzed segment: it was the thirty-fourth unit in that narrative:

- (8) .. I I guess that's the .. old world style, [*old world style* = "accessible"]

The idea of "old world this or that" was not verbalized at all in the intervening 29 intonation units.

In my own data (not only that analyzed for this study but extensive samples analyzed for other studies), I have found a strikingly consistent correlation, on the one hand, between the fall-rise pitch contour and the verbalization of accessible information and, on the other hand, between the falling (or rising) pitch contour and the verbalization of new information. This is an important point, for the fall-rise contour provides an objective, formal marker of accessible information to supplement Chafe's more subjective indicators, i.e., membership in a conceptual schema or previous mention in the discourse. The following examples—4a, which contains part of 4, and 4b, an invented example—might help you to "hear" the distinction between the fall-rise contour that verbalizes accessible information and the falling contour that verbalizes new information:

- (4a) [at the beginning of each class] he= ..  
wou=ld .. immediately open his ...  
notes up, (*notes up* verbalizes accessible information)
- (4b) [Guess what John did during lunch yesterday?] He opened his notes up.  
(*notes up* verbalizes new information)

Let me briefly summarize our discussion so far of given, accessible, and new information in discourse. Chafe gives us clear formal criteria that will help to analyze "given" versus "new" information

in conversational data: given information tends to be verbalized as pronouns or as weakly accented words; new information tends to be verbalized as full lexical items with strongly accented words. But all four of Chafe's examples that I have cited of "accessible" information—4, 5, 6, and 8—seem, using his criteria, formally indistinguishable from verbalizations of new information. Apparently, subjective semantic judgments about what might constitute a member of a conceptual schema, or about how long it has been since prior mention of an idea in the same discourse, seem to be the only basis for identifying "accessible" verbalizations. The distinction seems quite reasonable, conceptually, especially in light of the intuitive soundness of the distinction between focal and peripheral consciousness. It is therefore useful indeed to add the fall-rise intonation contour as a formal marker of information verbalized as accessible.

## RESEARCH DESIGN FOR THIS STUDY

The idea for this study had two sources: (a) Throughout the 1990s, while teaching a graduate course titled First and Second Language Acquisition, I developed an interest in interlanguage, the special and systematically structured variety of English that arises in second language learners, the study of which can reveal insights into the second language learning and teaching process. (For an overview of interlanguage research, cf. Gass and Selinker 1994, chapters 2, 6, and 7). (b) Also in the 1990s, I served as a dissertation advisor to Dr. Mary El-Kadi, and, while reviewing some of her data, I noted certain features of the discourse intonation of the international students that both distinguished them from their teacher and also indicated that interlanguage patterns might be at work. Dr. El-Kadi made video and audio recordings of 12 hours of an intermediate

to advanced level conversation class that met one hour a day, five days a week for seven weeks. She recorded selected hours toward the beginning, some in the middle, and some toward the end of the seven-week period. Students in the class had scored approximately 500 on the Test of English as a Foreign Language (TOEFL). In her own research, she studied several selections of data toward the middle of the course. Her focus was on the analysis of interactional patterns such as turn taking and on the role of the teacher in both modeling and directing conversational interaction.

For this study, I first listened to extended samples of Dr. El-Kadi's data in order to formulate hypotheses. I then selected a short sample of the data that was three minutes and seven seconds in length and studied it in considerable detail. My research associate, Cristina Leira, spent approximately 20 hours producing a first draft of the transcription, focusing on segmenting it into intonation units. After that I spent more than 40 hours refining the transcription, timing the pauses, and analyzing the various discourse phenomena associated with each intonation unit.

The analysis reported in this paper is of a WAV sound file that was made from the video recording using a Sony IC recorder model ICD-R100. That WAV sound file was then analyzed using a sound analysis computer program made available through the home page of SIL International (formerly the Summer Institute of Linguistics). The home page address is <http://www.sil.org>. The title of the software is "Speech Analyzer: A Speech Analysis Tool, Version 1.06a" (© 1996–1998 by Summer Institute of Linguistics: Acoustic Speech Analysis Project; see JAARS\_ICIS Waxhaw, NC; e-mail: [speech\\_project\\_jaars@sil.org](mailto:speech_project_jaars@sil.org)). This computer program displays the basic sound wave in various degrees of detail (making it possible to measure the length of pauses quite accurately)

and can also display intonation contours. A fully analyzed transcription of the data is available in the appendix of this article.

## RESULTS AND DISCUSSION

Throughout this section of this article, the reader should refer to the full transcript of the analyzed data that appears in the appendix. Even though there were three students in the class during the three-plus minutes which were analyzed, one of the students (designated "Y" in the transcript) took only two turns at talk (turn numbers 21 and 23 in the transcript), producing only three intonation units (21a, 23a, and 23b), two of which were completely (23a) or partially (21a) unintelligible. The two students whom I focus on in the analysis are designated "K" and "G" in the transcript. "K" is a native speaker of Japanese, and "G" is a native speaker of Spanish. The teacher is designated "R" in the transcript. (These are the first letters of their first names.) An additional focus is on the substantive intonation units produced by those two students rather than on the regulatory or fragmentary units—this is because the mechanisms signaling verbalization as given, accessible, or new are operative only in the substantive units.

Table 1 lists the number of turns at talk in the analyzed segment of data and also the total number of intonation units, the numbers of each subtype of intonation unit (substantive, regulatory, and fragmentary), and the number of each type produced by the teacher and by each of the three students.

In the segment of analyzed data there were 56 turns at talk. The teacher, R, took 26 turns (about half the total); student K took 16 turns; student G took 12 turns; student Y took 2 turns.

There were a total of 123 intonation units, of which 63 (again, about half) were produced by the teacher. Student K produced 35 intonation units; student G produced 22; student Y produced 3.



**Table 1: Turns at Talk and Intonation Units**

	Total	Teacher (R)	Student (K)	Student (G)	Student (Y)
Turns at Talk	56	26	16	12	2
Total Intonation Units	123	63	35	22	3
Fragmentary Intonation Units	12	3	6	2	1
Regulatory Intonation Units	25	10	8	7	0
Substantive Intonation Units	86	50	21	13	2

Of the total of 123 intonation units, 12 were fragmentary units, 3 produced by the teacher, 6 by student K, 2 by student G, and 1 by student Y.

Of the total of 123 intonation units, 25 were regulatory units, 10 produced by the teacher, 8 by student K, 7 by student G, and none by student Y.

Of the total of 123 intonation units, 86 were substantive units, 50 produced by the teacher, 21 by student K, 13 by student G, and 2 by student Y. The focus of my analysis was on how student K and student G deployed discourse tones to signal the status of information in these substantive intonation units and on how their deployment of discourse tones differed from that of their teacher. Table 2 again lists the number of substantive intonation units produced by the teacher (R) and by student K and student G. It also reports on how many of those units verbalized new information and how many verbalized accessible information.

Of the 50 substantive intonation units produced by the teacher, 38 verbalized new information and 12 verbalized accessible information.

Of the 21 substantive intonation units produced by student K, 20 verbalized new information and only 1 verbalized accessible information.

Of the 13 substantive intonation units produced by student G, 12 verbalized new information and only 1 verbalized accessible information.

Table 3 focuses on the intonation units produced by the teacher, by student K and by student G that verbalized new information and reports on the tones used to signal that information status.

Notice that the teacher (R) always used either falling tone (in statements and *wh* questions) or rising tone (in yes/no questions) to signal the verbalization of new information, and he never used level tone to do so (as is appropriate, since level tone, as used by native speakers, indicates that the speaker is not in fact engaged in monitoring the status of information in the listener's consciousness and thus is not at that moment actively participating in the process of conversational interaction). But note that student K never used falling or rising tone to signal new information (as would

**Table 2: Substantive Intonation Units Verbalizing New and Accessible Information**

	Teacher (R)	Student (K)	Student (G)
Total Substantive Intonation Units	50	21	13
Substantive Units Verbalizing New Information	38	20	12
Substantive Units Verbalizing Accessible Information	12	1	1

**Table 3: Tones Used to Verbalize New Information in Substantive Intonation Units**

	Teacher (R)	Student (K)	Student (G)
Total Substantive Units Verbalizing New Information	38	20	12
Subtotal with Falling or Rising Tone	38	0	4
Subtotal with Level Tone	0	20	8

have been appropriate) but instead used level tone (inappropriately). Student G used falling or rising tone appropriately 4 of 12 times and inappropriately 8 of 12 times.

What is most interesting about the results of this study relates not to the percentages of intonation units of the various types and subtypes but to this manner in which the discourse tones are realized. Fully competent speakers of English signal the verbalization of active ideas as new information in discourse by using a falling tone on the tonic syllable of the intonation unit in statements and *wh* questions, and rising tone on the tonic syllable in yes/no questions. The speech of student K (the native speaker of Japanese) was most remarkable in this regard. In all 20 intonation units that he produced which verbalized new information, he used a level tone instead of a falling tone. Clearly, his interlanguage system does not yet use a falling tone as a means of marking new information. The speech of student G (the native speaker of Spanish) shows a similar tendency, but with exceptions. Of 12 intonation units that she produced which verbalized new information, she used a level tone instead of a falling tone in 8 of them. However, she did use the falling tone in the other 4 intonation units. Her interlanguage system thus contains the falling tone as a means of marking new information; however she uses it only a third of the time.

As noted earlier, each of the students being analyzed here produced only one

intonation unit with the fall-rise tone that marks semiactive ideas verbalized as accessible information. We have already seen that this is a much lower percentage than that of the teacher relative to the number of intonation units verbalizing new information. Of additional interest is the manner in which student K realizes the fall-rise tone (not as a fall-rise, but as a level tone on a higher pitch—cf. intonation unit 42g in the transcript).

- 42 K a 2:21.3 ...(1.3) But sòmetimes  
my mòther sáid--  
b 2:24.2 ...(0.5) It's not fo=r  
c 2:25.5 .. It's nót  
d 2:26.3 .. It's not .. góod for me--  
e 2:28.1 Só--  
f 2:28.4 .. I háve to--  
g 2:29.4 ...(0.3) go exchànge the  
clóthes, ((Fall-rise realized as a  
level tone on a higher pitch.))

In the one instance where student G uses the fall-rise tone to mark accessible information (cf. 36d), she realizes it in the manner of a native speaker.

- 36 G a 2:06.0 ...(1.2) Nó. ((Sung on  
three notes: level, very  
high, level.))  
b 2:07.8 ((Unintelligible.))  
c 2:08.8 ...(1.0) He's old enóugh  
that--  
d 2:11.0 ...(0.7) to know whàt .. he  
wants to wéar,

These findings based on very careful analysis of a relatively small segment of data confirm impressions based on less

detailed analysis of larger portions of the data elicited for Dr. El-Kadi's earlier study.

What conclusions relative to the process of second language acquisition might we draw from the findings of this study? First, in regard to student K, though he scored 500 on the TOEFL, he still has some way to go in mastering the refinements of the English discourse intonation system. He seems to know how to segment his speech into intonation units (though with difficulty—cf. his higher number of fragmentary units in Table 1), but he seems not to have mastered the actual phonetic realizations of the relevant discourse tones, as indicated by the complete absence of falling tones in his speech. The way in which he uses a raised level tone to realize the fall-rise tone in the one intonation unit verbalizing accessible information indicates that he is at least at the beginning stages of acquiring the system. One might even go so far as to say that he has acquired the tones at the "emic" (as in "phonemic") level, but has not yet acquired the tones at the "etic" (as in "phonetic") level.

Student G (the native speaker of Spanish), on the other hand, is well on the way to mastering the "etic" realizations of the system of discourse tones and may already fully have mastered them at the "emic" level.

Given the design of this study, it is not possible to assert with unqualified confidence whether the difference between the interlanguage systems of student K and student G in regard to the realization of discourse tones is due to their levels of competence as individual language learners or whether it may be explained by differences between their native languages (Japanese and Spanish, respectively) and English in the use of discourse tones; i.e., tones in Spanish, but not Japanese, may function more similarly to English. This question deserves attention in future research.

Although the findings of this study may need additional verification in order to make strong and conclusive inferences in regard to classroom practice, it is nonetheless reasonable to propose the use of data samples, such as the one analyzed in this study, in developing classroom exercises to assist students in mastering the English system of discourse intonation. Specifically, I propose the construction and use of exercises that focus on comparing the speech of a teacher (who is a native speaker of English) with that of students in data samples similar to the one analyzed in this article. The teacher's opening monologue in intonation units of turn 1 (a through k) is interesting in that it models all three of the most common discourse tones: the falling tone, the fall-rise tone, and the rising tone.

- 1 R a 0:02.6 Wéll.
- b 0:02.7 I've got twò things  
plánned for you. [falling tone;  
new information]
- c 0:04.8 .. this mórning, [fall-rise  
tone; accessible information]
- d 0:05.4 ...(0.3) Úm--
- e 0:06.2 ...(0.5) While we are  
wáiting for the óthers, [fall-rise  
tone; accessible information]
- f 0:08.0 in càse they dó come,  
[fall-rise tone; accessible infor-  
mation]
- g 0:09.0 tell me whàt you're  
going to do this wée=kend.  
[falling tone; new information]
- h 0:10.5 ...(3.0) It's alrèady stárt-  
ing now. [falling tone; new  
information]
- i 0:15.0 ...(1.0) Wátcha gonna do,  
[fall-rise tone; accessible infor-  
mation]
- j 0:16.8 ...(0.7) Do you have any  
pláns? [rising tone; new infor-  
mation]
- k 0:18.3 .. Kóji? [rising tone; new  
information]

Or one could point out to students how the teacher in the data sample in this article models the correct tone when he repeats the student's previous intonation unit in 13a and 17a. (Note that even though it is unlikely that the teacher had explicit knowledge of a system like the one used here for describing discourse tones, he seems, in 13a and 17a, intuitively to have repeated the student's previous intonation unit specifically to model the correct tone.)

- 12 K a 0:44.0 Three  
       b 0:44.5 Thrèe casséttes--  
       c 0:45.5 ...(2.8) Thàt's enóugh--  
 13 R a 0:48.8 ...(0.3) Thàt's [enóugh.]  
 16 K a 0:53.5 I  
       b 0:53.8 I búy--  
 17 R a 0:54.3 You [búy it.]  
 18 K a 0:54.8 [I dó--]

More specific proposals concerning classroom practice must await additional research into the facts of discourse intonation in the interlanguage of learners of English as a second language, but clearly the principal finding of this study—that adult learners of English as a second language tend to use a level tone to mark new information instead of a falling tone in statements and *wh* questions and a rising tone in yes/no questions—can be used to give students practice in this, perhaps the most important, element of the English discourse intonation system.

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## APPENDIX: TRANSCRIPTION OF DATA

<u>Fragmentary Intonation Unit</u> (No terminal punctuation)	= Lengthening of Preceding Segment
<u>Regulatory Intonation Unit</u>	, Fall-rise Tone on Preceding Tonic Syllable
<u>Substantive Intonation Unit</u>	? Rising Tone on Preceding Tonic Syllable
<i>Text Verbalizing Given Information</i>	. Falling Tone on Preceding Tonic Syllable
<u>Text Verbalizing Accessible Information</u>	! Rise-fall Tone on Preceding Tonic Syllable
<u>Text Verbalizing New Information</u>	-- Neutral Tone on Preceding Tonic Syllable
0:00.0 = Minutes : Seconds . Tenths of Seconds	[ ] or [ [ ] ] Simultaneous Articulation
.. Pause of 0.2 Seconds or Less	((Comment or Clarification))
...(0.0) Timed Pause of More than 0.2 Seconds	R: English Teacher
á, é, í, ó, ú, ý Primary Phrasal Accent (Tonic Syllable)	K: Student (Native Speaker of Japanese)
à, è, ì, ò, ù, ÿ Secondary Phrasal Accent	G: Student (Native Speaker of Spanish)
<b>Bóldface</b> : Contrastive Accent (on Tonic Syllable)	Y: Student (Native Speaker of Japanese)

- 1 R a 0:02.6 Well.
- b 0:02.7 *I've got two things planned for you*.
- c 0:04.8 .. this morning,
- d 0:05.4 ...(0.3) Úm--
- e 0:06.2 ...(0.5) While *we* are waiting for the others,
- f 0:08.0 in *càse they* dó come,
- g 0:09.0 tell *me* whàt you're going to do this wee=kend.
- h 0:10.5 ...(3.0) *It's* alrèady stárting now.
- i 0:15.0 ...(1.0) Wátcha gonna do,
- j 0:16.8 ...(0.7) Do *you* have any pláns?
- k 0:18.3 .. Kóji?
- 2 K a 0:18.7 .. *It* will be ráining--
- b 0:20.0 .. Sáturday and
- c 0:21.2 ...(0.4) Sàturday and Súnday--
- d 0:22.6 I will
- e 0:23.7 Maybe *I* will stay hóme--
- f 0:25.0 ...(0.4) in the dórm--
- g 0:25.6 ...(0.4) and watch TV ((teevée))--
- h 0:27.0 or rènt a móvie--
- 3 R a 0:29.0 ...(1.0) Do *you* have a VCR? ((véeccearr))
- 4 K a 0:30.9 Yés.
- 5 R a 0:31.2 ...(0.7) And you get

- b 0:32.5 Where do you go to rent the tapes,
- 6 K a 0:34.0 ...(0.5) Blockbuster video--
- 7 R a 0:35.6 Right on twenty--
- b 0:37.1 ...(0.3) fi=rst--
- c 0:37.7 .. strée=t?
- 8 K a 0:38.1 ...(0.03) Yés.
- 9 R a 0:39.0 ...(0.4) How màny do you usually watch in a wéek.
- 10 K a 0:41.2 ...(0.4) Maybe
- 11 R a 0:42.2 In a règular week
- 12 K a 0:44.0 Three
- b 0:44.5 Thrèe casséttes--
- c 0:45.5 ...(2.8) Thàt's enóugh--
- 13 R a 0:48.8 ...(0.3) Thàt's [enóugh.]
- 14 K a 0:49.3 [Right,]
- 15 R a 0:50.3 ...(0.3) And wou-
- b 0:50.8 .. do you cook pòpcorn or ánything?
- c 0:52.9 when yuh
- 16 K a 0:53.5 I
- b 0:53.8 I búy--
- 17 R a 0:54.3 You [búy it.]
- 18 K a 0:54.8 [I dó--]
- 19 R a 0:55.5 Do you have any suggéstions for him? ((Addressed to G and Y.))
- b 0:58.0 It's a ràiny wéekend.
- c 0:59.3 Three movies take six hó=urs.
- d 1:01.5 What élse can he do.
- 20 G a 1:03.2 ...(3.0) Cléan--
- b 1:07.0 [((Laughing))]
- 21 Y a 1:07.0 [...(1.5)] ((unintelligible)) cléan--
- 22 G a 1:10.0 [((Laughing))]
- 23 Y a 1:10.0 [((Unintelligible))]
- b 1:14.0 .. cléa=n yóu=r róo=m--
- 24 R a 1:16.0 ...(0.5) Do you wánna do that? ((K shakes head from side to side.))
- b 1:18.0 ...(0.5) Nó?
- 25 K a 1:20.0 ...(0.5) I don't care--
- 26 R a 1:21.8 You don't càre if it is dírtý or clèan.
- b 1:23.8 ..Okáy,
- c 1:24.3 ...(1.0) Wéll,

- d 1:25.2 I
- e 1:25.3 ..We've gotta think of some óther activity.
- f 1:28.1 ...(0.5) Maybe they have some suggésion,
- g 1:30.5 .. You can hèar what tháy're going to dò,
- h 1:32.0 ...(0.4) Ché=ck òut with them.
- i 1:33.4 ..And sée what they're gonna do. ((Very softly spoken; see video.))
- 27 K a 1:34.7 ..Whát you gonna do-- ((To Gloria, almost inaudible; see video.))
- 28 G a 1:35.2 ...(1.0) I heard they're cleaning hóuse. ((Followed by laughter.))
- b 1:38.8 ...(0.4) Sàturday .. eh .. is a góod day for cleaning.
- c 1:42.2 And I may go to the mall--
- d 1:44.5 My oldest néphew--
- e 1:46.0 is going to Orlàndo Flórida--
- f 1:46.7 with the bánd--
- g 1:47.5 ...(0.4) And he wants néw .. clòthes.
- 29 R a 1:49.5 ...(0.3) He wànts new clóthes?
- 30 G a 1:50.5 Yés.
- b 1:51.0 ...(1.0) ((Unintelligible))
- 31 R a 1:52.7 ... (1.6) For hím.
- 32 G a 1:54.7 ...(0.3) Yés.
- 33 R a 1:55.5 ..Whý do you have to go= for hím.
- 34 G a 1:57.1 Oh because maybe I buy sòmething for me--  
((Giggles through 35a-e.))
- 35 R a 1:59.8 Úh,
- b 2:00.8 ...(0.8) Convénient.
- c 2:02.2 Húh?
- d 2:02.6 Do you advíse him on--
- e 2:04.3 ..what clóthes he should wear?
- 36 G a 2:06.0 ...(1.2) **Nó.** ((Sung on three notes: level, very high, level.))
- b 2:07.8 ((Unintelligible.))
- c 2:08.8 ...(1.0) He's old enòugh that--
- d 2:11.0 ...(0.7) to know whàt .. he wants to wéar,
- 37 R a 2:13.3 ...(0.9) How old ís he.
- 38 G a 2:16.0 Fóurteen--
- 39 R a 2:16.5 ...(1.7) Did you decide on yóur clothes at fòurteen? ((Addressing K.))
- 40 K a 2:20.1 .. Yés--
- 41 R a 2:20.7 You díd!
- 42 K a 2:21.3 ...(1.3) But sòmetimes my mòther sáid--



- b 2:24.2 ...(0.5) It's not fo=r
- c 2:25.5 .. It's nót
- d 2:26.3 .. It's not .. góod for me--
- e 2:28.1 Só--
- f 2:28.4 .. I háve to--
- g 2:29.4 ...(0.3) go exchànge the clóthes, ((Fall-rise realized as a level tone on a higher pitch.))
- h 2:30.8 .. with hér--
- 43 R a 2:32.0 Exchange it for sòmething élse.
- b 2:33.5 .. Húh?
- c 2:33.8 ...(0.3) Something that shé liked.
- 44 K a 2:36.0 ...(1.8) It was
- b 2:38.0 ...(0.5) She gave
- c 2:39.0 .. gave me mónéy--
- d 2:39.9 .. So--
- e 2:40.2 ...(0.8) I have to
- f 2:41.7 ...(2.2) I háve to= --
- g 2:45.5 ...(1.7) dépend on hér--
- 45 R a 2:48.0 ...(0.5) Uhúh.
- b 2:48.9 ...(1.0) So you hàd to respèct [hér wishes.]
- 46 K a 2:50.9 [Yés--]
- 47 R a 2:51.5 Hér taste.
- 48 K a 2:52.0 .. Uhúh--
- 49 R a 2:52.5 Èven though you didn't líke them.  
((R then switches eye contact to G.))
- b 2:53.8 ...(1.4) At fourtéén.
- 50 G a 2:56.7 ...(1.7) Yés,
- b 2:58.2 and he is nót at home.
- 51 R a 2:59.5 ...(0.5) Nó.
- 52 G a 3:00.3 Nó--
- 53 R a 3:00.7 ...(0.4) He won't exchànge it?
- 54 G a 3:02.3 ...(1.1) Úh-Uh.
- 55 R a 3:03.6 ...(1.0) He knòws what he wánts,
- b 3:05.3 and he géts it.
- 56 G a 3:05.8 And
- b 3:06.6 .. Yé=s. ((Ends at 3:07.2.))