The Reading Matrix
Vol 4. No.1, April 2004

FLUENCY: A QUANTITATIVE AND QUALITATIVE ACCOUNT

Ali Hechmi Raddaoui
Email: araddaoui@yahoo.com

Abstract

This paper considers quantity and quality as indices of fluent oral discourse. Quantity refers to speech rate, pause rate, and pause position. Quality subsumes mainly lexical accuracy, richness, variation, economy, metaphoricity, and complexity. The conclusion is a call for more research on the processes of acquisition, enrichment, and maintenance of lexical resources

The primary purpose of this paper is to characterize oral fluency in English in a more concrete fashion than is hitherto available. Much like *command, mastery, proficiency,* or *competence,* fluency is a generic word that begs clarification. It has been used as an umbrella term to mean a certain quantity and quality of speech described as being not a trickle but a flow of the right degree and of correct composition. In this paper, I propose to deconstruct this notion into its basic components and hope to end up with a checklist for gauging the extent to which a speaker's oral production can or cannot be characterized as fluent.

In particular, I want to suggest a minimum of two general headings under which this notion can be examined. These are quantity and quality of speech. Under quantity, I will look at such aspects as speech rate, pause rate, and pause position. Quality is also a wide-ranging factor, but my focus here will be on vocabulary, particularly such aspects as lexical accuracy, richness, variation, economy, metaphoricity, and phrasal complexity. Phrasal complexity in turn refers to a set of multi-word lexical units such as idioms, collocations, phrasal verbs, and compounds. The paper concludes with a few queries about the process of acquisition, enrichment, and maintenance of these lexical resources. I will suggest that fluent speakers of the language may develop as part

of their competence, certain templates which will become home to newly / freshly-created expressions and compounds.

Characterization of Fluent Discourse

Quantity of Speech

Quantity of speech is a physical correlate of fluency amenable to quantification within a time limit. Specifically, it represents a direct reference to word density in a given stretch of discourse. This density is a function of at least three factors with direct bearing on a tally of density. One of these factors is what Ellis (1986, p. 265) terms 'the ability to attend to form without using conscious rules'. This refers to the unique capacity of a native speaker 'to produce fluent spontaneous discourse' (Davies, 1991, p. 148). Mastery of form under its various guises is, of course, a sine qua non for spontaneity.

Related to the mastery of form are the concepts of material and organization of material. Spontaneity cannot be assessed in a vacuum. It goes without saying that the participants in a verbal transaction need not only a topical framework for discussion, but also, and more importantly, they need to be in possession of material so that each can contribute toward the progress of the discussion. Bellenger (1979) rightfully points out the following: ‘In order to speak with ease, one has to have at one’s disposal quantities of ideas, memories, and chains of reasoning already experienced inside oneself’. Clearly, this requirement for spontaneity brings together the ideas of language as an oral activity and the notion of thought: 'the very characteristic of oral speech is that is it constructed simultaneously with thought’ (Bellenger, 1979, p. 10. Translation mine).

In what follows, I will engage in a brief quantitative analysis of speech, assuming that the data does not evidence gross violations of the code, that it is relevant (that is, with bearing on the topic), and that it is geared toward fostering an atmosphere of cooperation and communication.

Speech rate.

Speech rate or discourse density is a ratio of the number of words over the time taken (in minutes) to produce these words (Kawauchi, 1997); what obtains at the end is a statistic of the form 'words per minute'. For example, it seems that in French, speech rate usually ranges from 60 to 120 words per minute (WPM) (Bellenger , 1979, p. 62). As a working definition, we might follow Anderson (1990) in considering a word to be 'any standard orthographic unit'. We then base our count on the tapescript of the utterance. Anderson further specifies that contractions and concatenations in grammar such as 'it's', 'they've', 'wanna', and 'gonna', count as two words, whereas proper nouns not referring to people, names with titles, exclamations, and greetings, all count as one word.

Pause rate.

By definition, pauses are intervals of time during which the speaker does not contribute to the furnishing of silence. They are interruptions in the flow of speech. However, they do not of necessity detract from the quality of speech. That a speaker's utterances are punctuated with pauses is both natural and expectable. Pauses are as natural in speech as punctuation is in a written document. They could play a variety of roles. One of these is that pauses are required by the exigencies of the respiratory mechanism, especially if a speaker is engaged in a long tirade and is uttering a sentence with long clause contours.

In the case of a foreign language learner, pauses have a specific interpretation. A misplaced pause can be an indication that the speaker is groping for a lexical item, or is consciously rationalizing a grammatical rule so that his utterance does not come in violation of the language code. Very often, in language learner's language, especially in formal contexts, pauses are again a

call for help to be dispensed by the instructor or the interlocutor, who, by then, would have presumably guessed at the kind of difficulty encountered by the learner, and the kind of help needed.

Speech density is directly related to the pause phenomenon. This means that the higher the density, the shorter and fewer the pauses. Likewise, a lower speech density can be attributed at least in part to a high number of pauses. The latter case can be an indication of lack of fluency. Perhaps, then, an alternative characterization of fluency would be by stating what it is not. In his analysis of foreigner talk, Anderson (1990, p. 22) reports that at the phonological level, this language is marked by “slow distinct speech, with frequent pauses, emphatic stress, and exaggerated enunciation”.

Pause position.

Pause position is an important index of fluency or lack of it. Davies (1991, p. 148)) distinguishes between intra-clause pause versus pause at clause boundary. In his description of pause patterns in adult-adult speech, Anderson (1990) found that only about 50 % of pauses occur at utterance boundaries, implying _ one would think - that the remaining 50 % occur medially. Bellenger (1979, p. 148) states that pause at clause boundary is characteristic of normal native speaker discourse; language learners tend to pause medially, for example after articles or prepositions. This is a question of speech processing prior to its release: Davies argues that 'native speakers demonstrate a command of chaining whereby they show their 'one-clause-at-a-time facility'. This would mean that the clause as content comes out in a compact time mould, as one breath group, as it were, together, as one chunk of words. Evidence from studies of word and phoneme reversals (particularly spoonerisms) seems to suggest that 'speakers hold a complete phrase in some stage of readiness for speech (Borden & Harris, 1984, p. 60).

So far in this section, we have looked at speech density and pause pattern as two factors affecting fluency. A large number of related factors need to be identified and investigated. Among these are appropriacy, register, and pronunciation, (including suprasegmentals such as rhythm, stress, intonation, and nucleus) are definitely potential contributors to a qualitative analysis of fluency. Many of these aspects have already received ample treatment. The debate on the type and quantity of lexical items that the learner must be in possession is, however, still a controversial issue (Arnaud & Bejoint, 1992; Nation, 1997; Maera, 1992;)

Quality of Speech

In this section, I would like to develop the idea that speaking, much like writing, consists of far more than the mere capacity to string words together that are acceptable from the points of views of usage and general use. Lexis-wise, there are certain qualities of words that can, even on first blush, be used to discriminate between two pieces of discourse that are otherwise equally acceptable. To characterize these qualities, I shall use these labels: (i) lexical richness, and (ii) lexical complexity.

Lexical Richness

It is perhaps fitting to begin with a central point made repeatedly in Arnaud & Bejoint (1992), that applied linguistic thinking has long had its focus on lexical (and other types of) errors, without paying much attention to lexical richness. Lexical richness refers to the amount of vocabulary gained by the learner or speaker in one way or another. Indirect evidence of the importance of vocabulary size comes from recent studies by Laufer (1992) suggesting that learners in the process of text interpretation rely "on word meaning first, then on their knowledge of the subject matter and least of all on syntax". Further, it is claimed that "reading comprehension at an academic level requires 95 % coverage, i.e., knowledge of 95 % of word tokens in a given text". In

a study reporting on reading test results, Laufer (1992, p. 128) found that the minimal vocabulary level at which there were significantly more 'readers', i.e., learners who scored 56 % and above on the reading test was 3,000... The most significant reading difference was between the reading scores of 2,000 and 3,000 vocabulary level groups.

Before extrapolating from these studies, one could first of all reiterate the point about the significance of vocabulary size for text comprehension. Comprehension of a text at an acceptable level, as a cognitive activity, requires from the learner at least a passive knowledge of the greatest majority of vocabulary tokens. Passive knowledge would mean that the learner is able to recognize the lexemes in question, and assign them proper meaning in the text.

Where the learner is called upon to not only to 'know' vocabulary items, but also to use them, is in oral (and written) production. Correct use of these items in actual speech situations is a cut above mere understanding or recognition. It means that the items are not only part of the lexical repertoire of a learner, but that they can be activated at will, or perhaps even better, spontaneously. Active knowledge of a bulky lexical repertoire has uncontested influence on a speaker's oral production, which will be conspicuously absent from the performance of a speaker with rudimentary vocabulary. This difference will be most salient in at least two respects: (i) lexical variation, and (ii) lexical economy.

Lexical variation.

I am using the phrase 'lexical variation' as an equivalent of lexical flexibility. By these I mean that the speaker, reacting to a situation where they felt their message to be still somewhat obscure, ambiguous, or otherwise in need of further clarification, has the wherewithal to embark on a rephrasing of the message. That rephrasing, being a function of lexical richness, can manifest itself along a continuum: the speaker may, for want of lexical (and other) resources, just limit themselves to a verbatim repetition of the same stretch. We are all aware of the frustration that can

be occasioned by a request for clarification that is met with a nagging carbon-copy reiteration of the same message. This kind of repetition is, to many, the very negation of fluency. Fortunately, wholesale repetition is not always the most likely scenario following a request for meaning elucidation. Language is generally a malleable tool, and speakers in possession of more than a working knowledge of it, can and do vary either part or all of the elements of a message, without affecting the bulk of the content of that message. This requires of course a capacity to reshuffle the lexical elements into a whole new deal, and presupposes, if necessary, a syntagmatic reorganization of the message. What is at stake then is a readiness manifested by the speaker to draw on an-easy-to-retrieve lexicon that must therefore be stored in low memory so to speak, a sort of on-line help that quickly pops up - as per need. Among other things, this lexical storage should be home to an array of synonyms or near-synonyms that can be instantly activated to fill-in for semantically equivalent elements that have fallen short of transmitting the speaker's message. In a word, a fluent speaker is someone with an active, use-ready, built-in thesaurus.

Lexical economy.

Lexical economy is a direct result of lexical richness. When the speaker can easily access a large and varied vocabulary pool, they will select among all the available resources those that support the idea in the most economical way. Put differently, they will make use of the linguistic tools that tax them least in terms of speech expenditure. The assumption is as follows: in order for an idea that comes to mind to be optimally verbalized, it has to be couched in a favorite expression. Where the optimal expression is readily available, the speaker will make use of it, and will thus spare themselves the trouble of beating about the bush, attempting to recall it, humming and hawing, or simply, circumlocuting. The so-called am's and ar's or hesitation, as an undecided style of expression, will certainly occupy a much longer time span, will tax the message clarity and straightforwardness, and can sometimes be perceived as lack of fluency.

As users of English as a second / foreign language, I do not believe we have to set ourselves goals and standards of oral fluency that educated native speakers of the language cannot attain and abide by at all times. After all, this is the world of oral expression, unplanned, improvised, semi-prepared, or prepared. What usually takes n sentences to be expressed in writing, will presumably take n + 2, 3, or 4 sentences in oral production. Nothing is more unusual than someone who spews out a barrage of sentences without any hesitation, unfinished sentences, or changes of course, unless that person is reciting a passage or speech that they have learnt by heart, or is reading from an electronic board. The French phrase 'parler comme un livre', ‘to speak like a book' is still in currency. I think it refers to behavior manifested by some highly literate individuals, who, out of uninterrupted contact with the world of books, papers, and research, have internalized their reading and writing habits and transferred them on to the world of speech.

To set the record right, I would like to add that circumlocution, even if considered a step below fluency, can be interpreted more charitably than to say that it is an index of lexical paucity. Ability to rephrase or paraphrase a message, even when it does not contain the right word, with the price that the message is unnecessarily expanded, is commendable. Rather than being considered only a failure in accuracy and economy, it can be viewed as 'compensation for failure'. This situation where the speaker lacks the exact word but is able to make up for that lack is a part of what is called strategic competence. In this sense, circumlocution, notwithstanding its being the antithesis of fluency, is, too, a strategy that can be profitably leaned on, as when speakers feel they need to modulate and adjust their message to make it clearer to the other party.

Lexical Complexity

Lexical sophistication.

I would characterize lexical complexity as being in part a function of what I would call, for want of a less-judgmental term, lexical sophistication. Sophistication should not, however, be viewed the negation of the capacity a speaker has of producing clear unambiguous messages; it is not the antithesis of simplicity and transparency.

While learners at intermediate plus levels of language mastery can produce meaningful grammatically correct discourse, what otherwise distinguishes the speech of a fluent speaker and a not-so fluent speaker from the lexical point of view is use of words that better collocate with each other. I am not only referring to collocations, which have a very specific meaning, but to a more general description of lexical items in the sense that they are compatible; they support each other, co-occur, and do not consequently sound jarring or alien to each other's environments. When the lexical fabric of a text produced by a speaker is not highly compatible, that kind of text can be said to be insipid, lacking the flavor of compatibility and sophistication.

Phrasal complexity of lexis.

To tackle this category, it would be useful to refer to the kind of language produced by a speaker at a very early level of linguistic development. Discounting chunk-learned words, utterances made by such speakers would, lo and behold, be rather simple in terms of their phrasal structure. For example, both the NP and the VP, would be reduced to their bare minimum: the NP can take any one of these forms: N or Art + N, or Art + Adj + N. The VP too can be any one of the following: a tensed verb / a tensed negated verb, or a tensed negated verb with a modal, (plus an expansion). An example of this would be: 'I saw a cat'. The structure of both the NP and the VP is then confined to a skeletal level, with, as a consequence, very little addition, expansion, or fleshing out. Complexification of phrases is a phenomenon that occurs gradually as the need to further refine, qualify, and tighten those phrasal categories arises. I will only cite one instance of

such complexification, but will have more to say on others in the coming subsection. Let us consider the NP category as a lexical whole. Instead of it being reduced to the regular Art – Adj - N structure, it seems to me that at this point in the history of English, there is a growing tendency among fluent and highly educated users of English to use highly complex NP constructions. Very often, these NP's are either instances of relativization or compounding. Relativization is not the most complex phenomenon on the scale of markedness, in the sense that it requires less processing (time) and effort to produce than other types of compounds.

By way of illustration, we can say that compound expressions of the forms in 1 and 2 below stand for longer phrasing of the forms in 1.a and 2.a:

1. The no-fly zone. (4 words)

1.a The zone where X is not allowed to fly. (9 words)

2. The don't-rock-the boat attitude. (6 words)

2.a The attitude (of some people) that (systematically) says: 'Let's not rock the boat'. (9 words)

The NPs in 1 and 2 are obviously more economical in terms of number words than their counterparts in 1.a and 2.a: 4 and 6 words against 9 and 9. Also, 1 and 2 evidence a degree of complexity that is definitely superior to 1a and 2.a. In this sense, users of 1 and 2 above get higher marks on the scale of complexity, economy, and fluency than those using 1a and 2a.

Multi-word lexical units.

A multi-word lexical unit is an umbrella term that refers to any group of lexical items that appear together with more than random probability (Verstraten, 1992). Use of multi-word lexical units and memorized sequences is a powerful explanation of the ease with which some speakers seem to be able to 'encode whole clauses at a time'. Cowie (1992, p. 11) sees fluency as being contingent on mastery of such forms:

> It is impossible to perform at a level acceptable to native speakers, in writing or in speech, without controlling an appropriate range of multi-word units. Moreover, the demands of creative expressions in the foreign language rests for native speakers and writers, on prior knowledge of a repertoire of such expressions.

It is not my intention here to come up with the full inventory of such lexical resources in the language; suffice it to say that generally, the following two sub-categories fall under multi-word units: (i) fixed expressions, and (ii) idioms. A Fixed expression is also known as a recurrent combination or a collocation, and refers to any stable unit which is made up of at least two words' (Danuta, 1992). Fixedness, Danuta argues, is a relative concept, and is a feature of all collocations, but the distinction between idiom and collocation is motivated not in so far as fixedness is concerned, but mainly on account of meaning. While the meaning of a collocation is transparent and can be arrived at from the combination of the meanings of the constituents, the meaning of the idiom is said to be non-combinatory, i.e., it is not the sum total of the meanings of the constituents.

The addition of phrasal verbs to the category of fixed expressions can also be satisfactorily motivated. A phrasal verb is obviously a compound of sorts, a more or less tight unit, in the sense that it is made of a verb together with one or two prepositions attached to it and whose meaning the preposition shapes in a specific way (Blau, Gonzales, & Green, 1982, p. 184). Student whose L1 does contain phrasal verbs usually find it difficult to grasp the significance of the of particle(s) at the end of the verb. So, they fail to perceive and make use of the nuances and, sometimes, stark differences in meanings that addition or change in a particle creates in one verb (Blau et al.). For example, learners' ability to express themselves will suffer a lot as a result of not knowing the difference between 'put out', 'put down', 'put off', and 'put up'. This means that instead of using a phrasal verb, they will have to look for alternative ways of saying it, which would be less accurate, less correct, and less 'English'. Again, this is a tax on fluency.

Metaphoricity.

Search for synonyms or equivalencies can be carried out at the level of the lexical reserves a speaker has, but an equally rich area to tap is that of metaphors. In their seminal book entitled: *Metaphors We Live By*, Lakoff & Johnson (1980) demonstrate that contrary to popular belief that it is possible to get by without use of metaphors, the latter pervade our everyday verbal interactions. Being a figure of speech in which A is identified with B, either through substitution or comparison, metaphor goes beyond the simple level of labelling things in the real world, and instead directs itself to a second meaning which is below the label itself (Jarvie, 1993, p. 152). This movement away from denotation to connotation strongly suggests that language is not always a transparent vehicle (Jarvie, 1993, p. 52).

Metaphor appears as another strategy utilized by the mind to communicate meaning. The fact that this strategy is so commonly employed explains why we very often fail to perceive an expression as being metaphorical; we have grown so accustomed to it that we tend to forget that it was primarily a metaphor. To link up with the object of this paper - fluency -, it would not be incorrect to say that there have to be manifestations of metaphoricity in fluent discourse in general. Where and how many is outside the scope of this paper, but the principle holds, and has to be assigned its due position in our search for fluency features, and also with regard to our teaching and learning theories and practices.

In this section, the point has been made that lexical complexity and richness imply that the speaker is in possession of a wide range of lexical items not simply at the level of passive recognition, but also, and more importantly, at the level of active use in communication situations. As a result of lexical ease and resourcefulness, the speaker finds him/herself empowered to explain,

rephrase, and expand, as well as use the right word in the right place, thus adding the feature of economy to an otherwise versatile expression.

Conclusion

This paper has followed a two-pronged approach to the issue of fluency. Under speech quantity, I have tried to review some of the tools and procedures for measuring speech fluidity, in terms of speech rate (WPM) and its corollaries, pause rate, and pause position. On the other hand, lexical quality, a major index of verbal maturity and sophistication, includes, among other standards, the ability to choose the right word, vary wording, use multi-word units, compress, and connote.

In the remainder of this paper, I would like to raise a few points about the implications of this understanding of fluency for language acquisition and language teaching. I have stressed the role a rich and complex lexical storage plays in successful communication. A speaker of a language who is in possession of such a repertoire is not going to remain at the mercy of words, assuming of course that their resources are in active memory, which means that they are retrievable at adequate speed. Processing and retrieval time can thus be reduced to a minimum.

Pertinent issues

What I would like to submit at this point is that such a store of resources and tools has to be acquired and maintained. The relevant questions to be asked are these: (i) how do we go about acquiring these resources and how should we proceed to acquire them ourselves or impart them to the language learner? And (ii), what necessary maintenance operations does the speaker have to perform in order to keep all these resources use-ready? In other words, how do we make the school

curriculum responsive to these needs, and what kind of learning strategies do we want the learner to follow in their school and home curricula by way of enriching and up-keeping the store?

Another potentially fertile area of investigation has to do with chunk-learned words including compounds. The argument has been put forward that fluency requires possession of large numbers of such phrases, which enables the speaker to produce whole clauses at a time. Again, this tells us that the clause as a thought boundary or a breath group is furnished in a rather dense manner. The inclusion of bulky speech units within the clause confines in one go obviously serves that purpose well, and little space will be left unoccupied.

What I would like to propose now is that there are two ways to attend to those bulky speech units or compounds. The first is that these compounds are stored as learnt chunks in our lexical cache. In this case, little effort would be needed to access and retrieve them into the interaction situation. This is the natural situation. The second proposition is not a negation of the first, but is slightly more complex and subtle. Informally, it works in the following way: fluent users of language will have come across large numbers of similar compounds. They will have stored in their lexical storage those of them that are so often used (man-made weapons, Tokyo-based organization, World Health Organization, in-class examination, no-parking zone, etc.). While these phrases get added to the lexical store, it appears that another process is at work which seems to operate by analogy: different kinds of blueprints, schemas, or empty boxes corresponding to the above mentioned examples of compounds (and others) will also have been installed somewhere in the mind. These are not real lexical items, but moulds, ready-made shapes, awaiting the appropriate kind of items to be positioned in pre-determined slots and come out in the form of a compound in the course of communication situations. These are what I would call, for want of a better term, 'multi-word templates', with the potential of housing compound nouns and possibly too, newly-coined phrasal verbs.

References

Anderson, E.S. (1990). *Speaking with style: The sociolinguistic skills of children*. New York: Routledge.

Arnaud, P. J. L. & Bejoint, H. (Eds.). (1992). *Vocabulary and applied linguistics*. London: Macmillan

Bellenger, L. (1979). *L'expression orale.* Paris: Presses Universitaires de France.

Blau, E.K. & Gonzales, J.B. & Green, J. M. (1983). Helping students sort out phrasal verbs. P. 184. In Haskell, J.F. (Ed.), *Selected articles from the TESOL newsletter 1966-1983*. TESOL: Washington D.C.

Borden, G.J. & K.S. Harris. (1984). *Speech science primer*. Baltimore: Williams and Wilkins.

Cowie, A.P. (1992). Multiword lexical units and communicative language teaching. In P. J. L, Arnaud & H. Bejoint (Eds.), *Vocabulary and applied linguistics*. London: Macmillan. 1-12.

Danuta, B. (1992). L1 influence on renderings of English collocations: A Polish/German empirical study. In P. J. L, Arnaud & H. Bejoint (Eds.), *Vocabulary and applied linguistics*. London: Macmillan. 85-93.

Davies, A. (1991). *The native speaker in applied linguistics.* Edinburgh: EUP.

Ellis, R. (1986). *Understanding second language acquisition*. Oxford: OUP.

Jarvie, G. (1993). *Bloomsbury grammar guide*. London: Parragon.

Kawauchi, C. (1997). Developing oral fluency in second language narratives. FLEAT III conference presentations. Retrieved from the Web August, 12, 2000, from http://web.uvic.ca/hrd/fleat3/cptalkfri.html#j10

Lakoff, G, & M. Johnson. (1980). *Metaphors we live by*. Chicago & London: University of Chicago Press.

Laufer, B. (1992). How much lexis is necessary for reading comprehension? In P. J. L, Arnaud & H. Bejoint. (Eds.), *Vocabulary and applied linguistics*. London: Macmillan. 126-132.

Maera P. (1992). Network structures and vocabulary acquisition in a foreign language. In P. J. L, Arnaud & H. Bejoint. (Eds.), *Vocabulary and applied linguistics*. London: Macmillan. 62-70.

Nation, P. (May 1997). The language learning benefits of extensive reading. *The Language teacher online*. Retrieved from the Web October 21, 2000, from http://langue.hyper.chubu.ac.jp/jalt/pub/tlt/97/may/benefits.html

Verstraten, L. (1992). Fixed phrases in monolingual learners' dictionaries. In Arnaud & Bejoint, (Eds.), *Vocabulary and applied linguistics*. London: Macmillan. 28-40.

Ali H. Raddaoui, Fulbright Scholar, MA & Ph.D. in Applied Linguistics, Indiana University, Bloomington, USA; Associate professor of English at the Universite'de Sfax pour le Sud, Sfax, Tunisia; Areas of interest include sociopolitical concerns in ELT, world Englishes, translation, stylistic analysis and creative writing. Address: Faculte' des Lettres et des Sciences Humaines, Route de l'Aérodrome Km 5 (B.P. 553) 3000 Sfax. E-mail: araddaoui@yahoo.com