The Structure of Language: Why It Matters to Education

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Two sets of issues to be addressed

1. a. What modern linguistics tells us about language
   b. What part of this is relevant to education and educators
   c. Some applications that have proven promising
2. a. Teachers generally operate from a conventional wisdom or "folk" knowledge and attitude regarding language. Much of this is detrimental to the goals of education.
   b. The Linguistic Society of America's Language in the School Curriculum Committee is seeking collaboration in developing classroom materials for public education, based on contemporary science of language, as well as curricula for educating the teachers who will use these materials.

Three pillars of modern linguistics

Mentalism: Language is situated in the minds of speakers. "The" language (e.g. English) is an idealization of the practices of a homogeneous community. In fact, there is lots of individual variation and mixture of communities, and every speaker commands a number of different registers of vocabulary and usage, to be used in different contexts.

Combinatoriality: Language is a combinatorial system that can be used creatively and systematically. The *system* is not accessible to consciousness. Linguistics and psycholinguistics are concerned with discovering this system, comparable to research on psychology of vision.

Important question: What aspects of language does a speaker store in memory (including words, but also much else), and what does a speaker construct online in the course of speaking? The latter involves use of rules/schemas/principles that are applied creatively.

Inner resources for language learning: A child acquiring language has to learn the system on the basis of experiencing the practices of his or her speech community in context.

Important question: What are the inner resources that the child brings to this task? Some of the resources are fairly general (e.g. ability to interact socially, ability to imitate). But some are specific to language, a "language instinct" in Pinker's sense, a cognitive specialization of humans.

Most fundamental of the language-specific resources:

- Structuring sounds into digitized segments (phonemes) which are sequenced into fixed combinations (words/morphemes)
- Treating these sequences as symbols for concepts (meanings) that can be used in many different situations
- Organizing sequences of words/morphemes into hierarchical phrases and sentences (syntactic structures) whose meanings are constructed systematically from the meanings of the words

Traditional generative linguistics has stressed almost exclusively syntactic structure and the learning of syntactic structure, with far less emphasis on the characteristics of words or meanings or how they are learned. Yet children learn thousands of words by the time they are 6, and estimates for vocabulary in adults run on order of 50,000. There now exists a flourishing research tradition on word learning and how it interacts with learning of syntax.

There have been 40 years of dispute on the degree to which language learning depends on a cognitive specialization. The dispute is often clouded by an assumption (on all sides) that the answer has to be all-or-none. The correct answer is probably a mixed one. But in addition to the overwhelming complexity and abstractness of what has to be learned, many phenomena have emerged that suggest that something special is going on in language acquisition:

- Characteristic timing of acquisition: "sensitive period" for some (though not all!) aspects of language learning – crucial issue for foreign language and ESL education!
- Characteristic impairments of language connected with different genetic syndromes and different sorts of brain damage
- Signed languages of deaf communities everywhere, with characteristic grammatical properties not so different from those of spoken languages
- Creation of creoles from pidgins, of home sign, and of Nicaraguan Sign Language

Important moral, whatever the resolution of the dispute: Normal children can't help but learn a linguistic system based on the practices of their community, and they can't help but speak systematically, in tune with those practices.

Lessons from sociolinguistics

"A language is a dialect with an army and a navy." Examples: "Chinese" is many "dialects", as different as French, Spanish, Italian, and Portuguese; "Serbian" and "Croatian" are no more different than British and American English.

If a community uses a language variety that sounds something like Mainstream English, e.g. Jamaican Creole or African-American Vernacular (a.k.a. Ebonics), it is only an issue of terminology, not of fact, whether it's a different dialect or a different language. Like Mainstream English, such varieties are productive and rule-governed (in the linguist's sense), not just a melange of random slang and "shortcuts". Children growing up in communities that speak these language varieties can't help but acquire the system and use it productively.

Language is an important proxy for group identity. Attitudes toward another group are reflected in attitudes toward their language. To stigmatize a person or a group, stigmatize their language. To help suppress a group's sense of identity, suppress use of their language (examples: Catalan, Welsh, native American languages). Conversely, to reinforce one's own group identity, adopt distinctive language (not necessarily consciously!).

What needs to be taught in school: Speaking, understanding, reading, and writing in Mainstream English

This is essential not only for its own sake but for success in every other subject, from history to science and mathematics – not to mention for success in life. Difficulties in language arts infect the rest of education.

This is particularly problematic in light of the large proportion of students who either come from non-English-speaking homes (as much as 25% in California and rising everywhere) or speak non-standard dialects such as Appalachian English or African-American Vernacular.

David Olson: "Teachers have the professional responsibility for finding the meeting ground between the beliefs and intentions of the children and the norms and standards represented by the curriculum."

Aspects of "folk linguistics" that many teachers bring to the teaching of language

- "There is a proper, correct English." Speakers who do not conform to it speak "improper, incorrect, lazy, broken English". Incorrect usage is an issue calling for **moral indignation** (John Updike!). Linguistic science is irrelevant to issues of usage: these are "literary-philosophical-social-moral issues" (Mark Halpern). In other words, you are **bad** if you speak "incorrect English".

Fact: We all command several speech registers from formal to casual, the latter of which is full of "incorrect" English: "Got a minute?" "Whyncha come along?" "Me too." (And casual English is principled too!) Are we thereby **bad**? A less morally loaded distinction than "good/bad English" is "rhetorically appropriate/ inappropriate for the situation", which encompasses casual as well as formal usage, and recognizes that there are appropriate occasions for using a vernacular.

- "The language is going downhill, thanks to all these people speaking bad English. It needs to be protected."

Fact: Languages change all the time in vocabulary and grammatical structure: witness the differences between *Beowulf*, Chaucer, Shakespeare, and modern English. Was it a *bad* thing that Latin morphed into French, Spanish, Italian, Portuguese? Grammatical changes are taking place in modern Russian and in modern Icelandic, one of the most conservative of the Germanic

languages. Also, consider all the vocabulary added to English in the last 50 years having to do with e.g. medicine, computers.

- "The dictionary tells us what counts as correct language." "The dictionary shouldn't contain all this slang and all these new incorrect forms such as *snuck* and mispronunciations such as 'nucular'."

Fact: The dictionary does not spring from on high. People make up the dictionary as a record of actual usage. A good dictionary will mark words and pronunciations as dialectal, casual, slang – or formal.

- "The language is the *written* language. It's not a language if it's not written, or if it doesn't have a dictionary."

Fact: If this were true, most of the languages of the world over history would not count as languages. Until the last 200 years, very few languages were actually written, and literacy was confined to a very small elite.

- "Parents teach their children to talk."

Fact: Even in middle-class American environments, very little of what children learn of their language is explicitly taught – especially grammatical organization. Rather, children are "tuned" to be able to construct unconscious principles of language in response to linguistic input in context, through engagement in conversation. Merely passive exposure to language, e.g. TV or teachers, is usually ineffective in inducing language competence.

- "If you can speak English, you can teach it." This presumably is connected with the previous point. Parents don't need special training to get their children to talk, so why should teachers (or teacher's aides) need it?

Fact: The circumstances under which a child learns a native language in a home environment from birth are quite different from those in which a child whose native language is not Mainstream English tries to learn Mainstream English in a classroom starting at age 5, 12, or 15. Because much language acquisition takes place in the context of active conversation, and because teachers' attention is limited, many such children get their main input from ESL peers. The outcome is often "Learnerese", an interlanguage pidgin that can deviate considerably from Mainstream English.

- "Children will get confused if they try to speak more than one language."

Fact: In most of the world, multilingualism is the norm rather than the exception. Children have no problem sorting the languages out and switching appropriately between them. Examples: prewar Eastern European Jews, modern Holland and India. There therefore is no problem in encouraging children to remain fluent in their home language or language variety while acquiring competence in Mainstream English.

Examples of language and dialect discrimination based on "folk linguistics"

From video "American Tongues":

> I was engaged for a while to a "Yalie" who sounded like a Yalie to me, although he had a trace of a Southern accent ...and I went home to meet his family at Christmas. And as we drove further South from New Haven, his accent got heavier and heavier. It became filled with all these hillbilly kind of regionalisms, you know, this real kind of you all stuff and as well a lot of the hand gestures ... This man was becoming a different person as we went – mostly the language. By the time we got to Sparta, I had had it. I just knew that someone with those little accents was not gonna crawl around inside of me. I was not gonna have little Southern babies who talked like that and I got on a plane home. No question.

Adopted 2-year-old Russian child diagnosed as "language delayed" because she had only 30 words of English – after being in US about 3 weeks and despite the fact that she spoke in sentences in Russian.

7-year-old diagnosed as seriously dyslexic because she seemed to try to read words backwards. Nobody made the connection that she had learned to read Hebrew the previous year, which goes right-to-left.

More serious (reported by Lily Wong Fillmore):

> Native Alaskan children in the rural villages speak a variety of English called "Bush" or "Village English." That fact, together with a widely held belief that the children in those villages are nearly all affect by fetal alcohol syndrome (FAS), cause teachers to have little hope of raising literacy and math learning to levels required for passing the exam. My study of the language resources of the children in the region suggests that the dialect they speak could not be regarded as a barrier to learning; it is full and rich, and in most children, well developed. And after interviewing 70% of the children in one community, ages 5 through 18, and 68% in another, I found no evidence to support the rumors of widespread FAS. My research team and I encountered just 3 children who showed any evidence of cognitive disabilities....

Lily Wong Fillmore and Catherine Snow: The overrepresentation of African-American, Native American, and Latino children in special education placements suggests that the normal language features associated with a vernacular variety of English or with learning English as a second language are often misinterpreted as an indication of developmental delay.

Example from Rebecca Wheeler: Children taking PALs reading test read "The cat runs", "The dog barks" as "Da mouse run", "Da dog bark." They are marked as failing, even though they have successfully processed the material in order to be able to read it in their own dialect. Teachers only hear "mistakes", not phonetic pattern.

Some possible contributions of linguistics to teaching of language

Teaching of grammar:

Schools (mostly) gave up teaching grammar several decades ago, and it was nearly always a despised subject. Several reasons it was ineffective:

- Grammar was always taught prescriptively, with no attention to the way teachers and students actually talk. "Never end a sentence with a preposition": a prescription deriving from Latin grammar, bearing no relation to actual English usage.
- Traditional grammar relied on scientifically incorrect descriptions of grammatical concepts, e.g. "A noun is the name of a person, place, or thing." What about *redness, half, nonsense,* etc.? "The subject of a sentence is the doer of the action." What about *It seems to be raining*?
- Stigma and fear (among teachers as well as students!) is attached to "incorrect grammar" and to not being able to explain exceptions.

Modern linguistics provides better tools for grammatical description:

- Recognition of teachers' and students' own ways of speaking as a valid subject for grammatical description
- Syntactic in addition to semantic characterization of parts of speech and composition of phrases (how do you understand "Jabberwocky"?)
- More systematic accounts of grammatical properties of foreign languages
- Tree structures: more explicit and easier to use than old sentence diagrams
- Recognition that there are difficult cases that even the professionals can't characterize

There is still considerable dispute about the usefulness of teaching grammar. BUT having grammatical terminology available to teachers and students is valuable in teaching foreign languages, in teaching English as a second language, and in talking about writing (as recognized in the recent resolution of the National Council of Teachers of English).

Sounds and spelling:

Different languages have different sounds that may be hard for speakers of other languages to hear or pronounce.

- English sounds in *thin* and *these* are rare in languages of the world and hard for many non-English speakers to say.
- English speakers have similar problems with German *ch* and French *u*.
- Some dialects of English (e.g. US Southwest) pronounce *pin* and *pen* the same.
- Many dialects of English systematically omit *r* sound between a preceding vowel and following consonant (*Hahved Yahd* but also *Noo Yawk*).

Teachers who understand these systematic variations are in a better position to help students with reading and spelling.

English spelling is indeed riddled with idiosyncrasy. But accurate linguistic description can help sort out the regularities from the partial regularities from the total irregularities. Some tools:

- Distinguish sound from spelling: *regularit**y*** vs. *regularit**ies***, where difference in sound is regular but difference in spelling is special
- Spelling as a hint of what the word is related to, despite differences in sound: *electric-electricity, photograph-photography-photographic*
- Spelling as a hint of the word's history and older pronunciation: ***psy**chology* (Greek), ***k**nig**h**t* (Old English/Germanic)

Reading involves integrating speech sounds, intonation, and meaning. All possible tools should be brought to bear, not just phonics or just "whole language". Different children will find different tools more effective at different stages of development.

Development of language arts curricula in England and Australia by collaborations of educators and linguists (see *Resources*)– something to be desired in this country as well (avoiding mistakes of 30 years ago).

A Case study: A bit about African-American Vernacular

Regarded by general public as "not a language", "collection of slang", "anything goes". For much of the black middle class, it is something to be overcome, a reminder of their background (John Baugh).

Parallel to the rejection of Yiddish (native language of Eastern European Jews) in the early days of Israeli state. Parallel to Jamaican creole: regarded as defective "shortcut talk", but speakers are totally expressive in it (Alicia Wassink). Even some Dutch speakers believe Dutch is "not a real language", just a melange of German and English!

Linguistic analysis of AAV began in late 1960s and continues to the present (William Labov, John Baugh, Walt Wolfram, John Rickford, Geneva Smitherman, many others). Like every other language variety spoken over a substantial period of time, AAV is productive and systematic – just a somewhat different system from Mainstream English.

Most of AAV vocabulary is obviously of English origin, but some may originate in West African languages (and some, e.g. *jazz, tote, goober*) has crept into Mainstream English.

Most AAV grammatical properties are shared either with Mainstream English or other vernaculars (e.g. "negative concord" as in *I ain't seen nuthin*), but some (e.g. auxiliary verb system) resemble other creolized varieties of English (see below), suggesting either African or Caribbean origins.

Historical origin is an interesting scientific question, still not entirely settled, but it has no bearing on educational policy and practice!

Some systematic grammatical differences between AAV and Mainstream English:

- Unmarked plural: "I need two pencil." (Parallel in Chinese)
- Unmarked possessive: "the goldfish name"
- Regular third-person singular present tense: "he have a car" (I/you/we/they have ...)
- Zero copula: "she in the same grade"; "you a rabbit" (parallel in Russian, Hebrew)
- Habitual *be*: "he be playing basketball all summer" (parallels in creoles)
- Aspectual *done*: "They done tore the school up" (= have already torn)
- Existential *it is*: "It's a lotta girls" (= there are a lot of girls)
- Negative concord: "She wadn't no young lady, neither" (parallels in Shakespeare!)
- Fronted negative construction: "Can't nobody beat 'em"
- Indirect questions uniform with direct questions: "I asked him could he come with me."

These features are often used in variation with more Mainstream English constructions, just as Mainstream English speakers use a variety of constructions in day-to-day speech (*I will* vs. *I'll* vs. *I'm gonna*).

Using contrastive analysis and codeswitching in teaching Mainstream English to speakers of African-American Vernacular

Traditional "correctionist" approach, based on attitudes of "folk linguistics": Child's language is wrong, incorrect, lazy, "broken English." Children are *missing* plurality, possession, verb agreement. Here is how they *should* speak.

Student: I need two pencil.
Teacher: You need what?
Student: I need two pencil.
Teacher: We don't say, "I need two pencil." We say, "I need two pencil-s."
Student: Oh, OK.
[Next day] I read them three book.

IT DOESN'T WORK!

Core insight of contrastive approach: Student language is patterned – just a different pattern than the target of Mainstream English. Teach students to recognize distinction between "home speech" (or "informal speech") and "school speech" (or "formal speech"); use home speech as a springboard to school speech.

Goal is still mastery of Mainstream English!

Strategy: Instead of using language of *absence* and *correction* in teaching, use language of contrastive *patterns*. Help the students learn to use each code in appropriate circumstances.

Formal	*Informal*
I have two brothers and two sisters.	I have two brother and two sister.
In a few weeks ...	In a few week ...
All the boys came to school.	All the boy came to school.
Pattern for showing plurality: noun + s	Pattern for showing plurality: number words, other words in sentence, common knowledge

THIS WORKS!

Rebecca Wheeler and Rachel Swords (Newport News, VA): Black children performing consistently below White children. After one year of contrastive approach, Swords' Black and While children performed equally well on year-end benchmarks, Black children outperformed White children in math and science.

Similar results:

- University students at University of Chicago, 1991
- DeKalb county GA, 5th/6th grade: Steady improvement in reading scores vs. control grp, whose scores went down
- California Standard English Proficiency program (apparently not well implemented)
- North Carolina & West Virginia, with Okracoke and Appalachian dialects (Wolfram, Hazen)

This was the approach being advocated in the widely ridiculed Oakland Ebonics resolution of 1996 – NOT "teaching Ebonics".

A slightly different approach also has been effective: Teach reading in vernacular first, then move to standard language

- Sweden in 1960s
- Norway in 1990s
- "Bridge readers" in US in late 1970s (but squelched despite success)
- Jamaica

Overall message: Scientific results on the structure of language and how children learn language can have an impact on education – particularly if an effort is made to disabuse teachers (and the public) of the many deep-seated myths of "folk linguistics." The effort has just begun. On behalf of the Linguistic Society of America, I invite you to join us in figuring out how to implement this knowledge more effectively, for the sake of the kids.

Some Resources

Adger, Carolyn Temple, Catherine E. Snow, and Donna Christian, eds. *What Teachers Need to Know About Language*. Center for Applied Linguistics, Washington, 2002.

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Pinker, Steven. *The Language Instinct*. Morrow, New York, 1994.

Rickford, John Russell, and Russell John Rickford. *Spoken Soul: The Story of Black English*. John Wiley & Sons, New York, 2000.

Wheeler, Rebecca, ed. *Language Alive in the Classroom*. Praeger, Westport, CT, 1999.

Wheeler, Rebecca, and Rachel Swords. "Codeswitching: Tools of language and culture transform the dialectally diverse classroom." Forthcoming in *Language Arts*. (Also at www.rebecca.wheeler.net)

Websites for language teaching standards and materials developed in England:
http://www.standards.dfes.gov.uk/literacy/publications
http://www.phon.ucl.ac.uk/home/dick/tta/KS3.htm

Linguistic Society of America: www.lsadc.org
Center for Applied Linguistics: www.cal.org

Videos:
American Tongues, Center for New American Media, Hohokus, NJ
The Human Language Series, Equinox Films, New York