Making Meaning Across Textscales:
A Critical Statement on Reading Comprehension

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What constitutes reading comprehension and skillful reading in a discourse community?

What theoretical perspectives should guide a research agenda to improve literacy skills for all students?

I am pleased to respond to these important questions posed by the RAND Reading Study Group. The perspective I present here is based two decades' of research in text linguistics, discourse analysis studies, multimedia semiotics, and the sociology of literate practices in academic and professional discourse communities. This statement also benefits from my position as co-editor for the last ten years of the international research journal *Linguistics and Education*.

Making meaning by interacting with written text …

… is perhaps the simplest and most inclusive definition of reading comprehension. We can move toward a more detailed, sophisticated, and useful definition for research purposes by refining and elaborating on this bare beginning. I would like to do this in stages, first sketching out some theoretical principles which can guide a definition, and then filling in some of the necessary details. I am also not aiming for a single definition, but for a suite of interconnected definitions which together give something like an adequate response to making sense of this protean concept.

Making meaning as selective contextualization

As a semiotic process all textual meaning-making involves the interpretation of signs. The interpretative process is essentially a *restricting* of the possible ways in which a sign, such as a textual element (letter, word, sentence, etc.) can mean or point our attention to something other than itself. This restriction is accomplished by conventions of relevance, or more formally, by *selective contextualization*. We interpret the sign in relation to some contexts rather than others to make a meaning that is recognizably related to the text by the members of some discourse community.

The *kinds of contexts* in relation to which we make sense of textual signs include *co-text* (other signs in the same text, nearby or more distant), *intertexts* (some other texts deemed relevant to the interpretation of this text), *situational contexts* in the immediate setting and how it is construed as a setting of some meaningful type by the community (especially for speech, but also for written texts), and *cultural contexts* (typical discourse patterns, genres, belief and value systems, social practices, activity-types, etc.)

Each of these contexts, and the text itself, functions and can be analyzed on *multiple scales.* Textscales include the letter/sound scale, syllable scale, morpheme scale, word scale, phrase scale, clause scale, sentence scale, paragraph scale, section scale, chapter scale, and whole-text scale in typical texts. There are also many other implicit scales defined by various structural units (rhetorical and exchange structures, thematic development structures, expository strategies, etc.) and textural or cohesive threads or strands (which may be discontinuous and do not have functionally differentiated internal subunits) such as the repetition of names and the recurrence of themes, actants, symbols, and typical rhetorical and grammatical figures. Co-textual contexts exist *at* and *across* all these scales.

Likewise, the situational or more generally the activity contexts in which a text is embedded (spoken or written), in relation to the actual process of making meaning by the reader, writer, listener or speaker, are also multi-scalar. We may read a document as part of the activity of collaborating on a science task in a classroom, as part of a lesson, as part of a curriculum unit … and as part of social processes of relationship-building, community-building, identity-formation, etc.

Meanings are made on and across multiple text- and context- scales

Meanings are made with a text on each textscale and context-scale, and they are also made across scales. Just as we recognize that it is possible to pronounce or gloss each word of a phrase, clause, or sentence without comprehending the larger unit's meaning as a whole, so it is also possible to demonstrate comprehension of each sentence in a paragraph without comprehending the function of the whole paragraph in a larger text. Reading comprehension must be defined in a way that recognizes that we must comprehend information content and rhetorical function *at* each scale of discourse organization of a text and also *across* scales.

We do not comprehend a text if we merely recognize that it is a dialogue and comprehend each utterance and its rhetorical-functional relation to each other utterance (e.g. answer to question), but do not recognize that the dialogue as a whole constitutes a *joke* and do not get the *point* of the joke as a whole.

Selective contextualization means that each unit at each scale has its meanings in relation to *some particular* other units at the same and other scales, and not just in relation to *any possible* other units. Selective contextualization thus represents a special case of pattern-

construal or associative connection within and across scales in ways that are recognized as appropriate in some discourse community.

We make meaning by selective contextualization not just with respect to co-text (other units in the same text), but also with respect to extra-linguistic situational features in the present moment (including nonlinguistic signs) and with respect to culturally relevant intertexts from other times and places.

Learning to comprehend a text means learning to do selective contextualization in ways that make sense to other members of a discourse community. The contextualization conventions of a community lead us to associate units at various scales by certain particular logical-semantic-rhetorical relationships that can be construed between the units (whole-part; instance-generalization; antecedent-consequent; request-denial; agent-action; object-property; etc.) at each functional scale and across scales. This principle extends also to nonlinguistic contextualizations, associating a figure and its caption, a text and an extra-textual object, parts of a diagram and their labels, deictic phrases and speakers or places, etc. Likewise there is a repertory of typical kinds of intertextual connections (co-thematic, co-generic, co-actional, with many more specific types of connections in cultural systems of heteroglossia that specify in what ways and to what degree two texts are considered relevant to one another's interpretation).

Scale and Contextualization Definitions

As a process, reading comprehension is the selective contextualization of text units at all organizational scales in relation to one another, to situational features, to culturally relevant intertexts, and to on-going activities of which the reading act is a functionally constitutive element.

As an outcome, reading comprehension produces an (unconscious) abstract model of the informational content and rhetorical functions of a text at and across all scales of textual organization, which is capable of generating new texts that are recognizable to other members of the discourse community as similar in salient surface features to texts generated by their own models of the same original text.

Reading Comprehension as a matter of convention and degree …

Reading comprehension is not a matter of fact, but of interpretation and judgment by the members of some discourse community. Comprehension in the sense already defined implies interpretation, and interpretation cannot be exhausted. Every reading of a text is in some degree unique in the specific meanings it makes with that text, but every reading that is judged skillful in a particular discourse community must also have some elements in common with those of authoritative readers.

Comprehension is not an all-or-nothing phenomenon. There are degrees of comprehension both with respect to the various scales and relationships within the text and with respect to the goodness-of-fit of the reader's glosses, summaries, or performances to those of authoritative members of the discourse community.

In our culture, there is a privileging of top-down comprehension, in the sense that we give more weight to comprehension of the overall rhetorical functions and macro-propositions of a text than to the number of minimal units that are comprehended in isolation from one another or from their functions in larger-scale units and in the text as a whole. We judge comprehension more from a good summary than from a large number of correct glosses of individual sentences.

There is no sharp boundary between comprehension and interpretation. In general, comprehension as a concept implies a minimal, surface-feature interpretation that would be typical in the discourse community and is not marked by unusual or idiosyncratic contextualizations, no matter how ingenious, creative, or plausible. But no comprehension is possible without interpretation, and so each member of the community will produce a set of glosses, summaries, or performances that imply a slightly different rhetorical-semantic model of the text. As with all cultural phenomena, the community regards some sorts of differences of interpretation as unimportant, creating a sense of consensus, and others as representing significant deviations from that consensus. These functional-equivalence conventions must be learned as part of skillful reading. They cannot be inferred from the linguistic form of a text, but only from participation in a community of people who authoritatively interpret and make use of texts of that kind.

No practically useful view of reading comprehension can afford to ignore the fact that conventionality affords a role for authority and therefore for social power in determining what counts as comprehension of a given text and what does not, and which glosses, summaries, and performances will be judged more or less canonical, and which divergences more or less significant. This is a critical social fact about learning to be counted successful in reading comprehension, particularly for students whose home or peer cultures differ from the dominant culture which controls these conventions.

What's happening when discourse community members say someone has comprehended a text:

S/he provides a gloss of short texts, or a summary of long texts, that gives a commonsense default interpretative reading of the information content of the text and its surface rhetorical functions.

S/he answers questions about the text that identify salient information content and rhetorical functions.

S/he takes action that is judged to be logically implied by or logically consistent with the information content and rhetorical functions of the text.

Total comprehension and degree of comprehension of a text:

Total comprehension of a text occurs when we can give a plausible accounting for all linguistic choices at all scales of organization of the text in relation to situational and cultural contexts, rhetorical purposes, and intertexts, in contrast with plausible alternatives that do and do not realize the same or similar informational content and rhetorical functions.

The degree of functional comprehension of a text is relative to the embedding of the reading act as an instrumental activity in some longer time-scale activity to which it contributes significant affordances for the further unfolding of the larger activity. Degree of comprehension depends not on all available meaning dimensions and scales in the reading of the text, but only on those that are conventionally relevant to the embedding activity, i.e. those for which these particular differences make a difference.

Consequently, What reading comprehension is NOT:

Decoding written text to spoken utterances – which can be done without comprehension, although prosodies and intonation patterns do provide information about the reader's interpretation and contextualization of printed words in larger cotexts and contexts.

Comprehending each separate word and sentence – which is insufficient for comprehension at higher scales, and where higher-scale contexts can retrospectively alter the meaning of prior text at shorter textscales.

Recovering the intended meaning of the author – which is not only impossible to know, but also frequently irrelevant to the new context of activity in which the reading is embedded.

Comprehension as dynamic and multi-semiotic

As a process, reading comprehension is both prospective and retrospective.

Because each text unit, up to the end of a text, depends for its meaning on being appropriately placed in the context of larger text-units *which have not yet been fully read*, skillful reading is prospective and anticipatory. The reader imagines various possible larger units and provisional meanings-up-to-now for what has already been read, along with possible changes in provisional meaning depending on what comes further along in the text. Correspondingly, at each later point in the text, skillful readers re-evaluate their provisional meanings for prior text units and retrospectively re-contextualize them, often altering their meaning many times in the course of a full-text reading.

Many views of reading comprehension are synoptic rather than dynamic.

They assume that the text is interpreted as if it were read all in one instant and each part contextualized by the whole. Skillful reading is instead a dynamical process of continuous re-adjustment, or re-affirmation, of provisional meanings, and given the vagaries of memory, and the ways in which the remembered text depends on interpretation and may differ from the read text and from the printed text, reading continues to be dynamic during re-reading of texts, even of whole texts. Second readings and third readings are rarely identical in meanings made to first-readings, and there is no guarantee of convergence of meaning after multiple readings. Each prior reading alters expectations and saliences for the next reading, and over longer biographical timescales the intertextual experiences of readers further alter interpretations. This is one of many reasons why interpretation cannot be exhausted and why there cannot be a single meaning for a single text.

Skillful readers dynamically anticipate and retrospectively re-interpret provisional meanings and cumulate and integrate multiple readings of texts to produce richer meaning-sets.

No text exists in the material world as a realization of only linguistic signs.

Every material signifier – acoustic, typographical, or tactile – always also signifies in other non-linguistic semiotic systems (vocal qualities, font choices, calligraphic styles), and the total meaning of the text frequently depends on contextualizing the linguistic and nonlinguistic aspects of the signs in relation to one another. More generally, real texts include separate nonlinguistic signs which are conventionally integrated with the verbal text to produce composite meanings, or the texts (e.g. recipes, lab manuals) may exophorically reference nonlinguistic elements in the situational context.

The comprehension of a text must always take into account those nonlinguistic elements which are customarily salient for the members of the discourse/interpretative community. Many genres of written text are conventionally multi-modal or *multisemiotic genres*. Skillful readers read linguistic signs in relation to images, graphics, diagrams and many other visual displays as well as in relation to typography and page layout. In specialized discourse communities, mathematical symbols and other specialized semiotic representations are also necessary parts of the *multisemiotic co-text* in relation to which the meanings of purely linguistic signs must be interpreted (and vice versa).

Reading comprehension must always take into account the mutual contextualizations of linguistic-verbal signs and signs from other semiotic systems (e.g. graphical, mathematical) which are conventionally regarded as part of the same multisemiotic text or part of the same material text-object.

The Sociology of Reading Comprehension: A Critique and a Proposal

Authority and power in the evaluation of skillful reading: a critique

The RRSG preliminary draft report could be usefully strengthened by treating more specifically the role of social class and related factors such as racial oppression in the social distribution of reading comprehension skills. A sociologically sophisticated view of social class, which goes beyond just ascribed social status as a purely conventional matter of cultural categorization, would be helpful. Social class as such has a more determinative material basis in terms of access to resources and material power. It is because of the resource and power differences between social classes that the dominant class can asymmetrically determine the criteria of social status for all in the society. Even such a more complete view of social class still does not quite provide an adequate theoretical framework for the analysis of typical social differences in reading comprehension. The concept that is needed is one that is more troubling to us as researchers, who are ourselves usually members of the upper-middle class, the class which is as a whole the largest group of beneficiaries of the domination of other social groups. The concept is that of dominant vs. oppressed social groups, where this analytical opposition needs to be understood as a matter of degree, and as multidimensional across different domains of social action.

The relevance to research on reading comprehension comes from the linking notion of discourse community. Our society does not constitute a single homogeneous discourse community, not simply with regard to matters of specialization, but also with regard to the critical criteria for what counts as salient information in a text, what count as the most relevant intertexts, which values and social conventions determine the rhetorical force of elements in the text, and nearly all the other discourse-interpretative criteria that the reading of a text is determined by. As members of the largest economically, politically, and socially dominant fraction of society, we learn to read canonically, and to write canonically, as part of our "cultural capital" in Bourdieu's terms -- a form of capital we are given as the birthright of our social class, or more specifically as a consequence of our upbringing and membership in a relatively dominant social group. Moreover, the logic of heteroglossia, and of social-semiotic oppositions, tends to insure that not only are dominant and oppressed readings/interpretations different, but they are in many respects opposed to one another (or interpreted by different groups as being opposed). Interpretations always depend on values, and evaluations and saliences are among the most characteristic cultural differences between dominant and subordinate groups in a society.

Thus there is an important sense in which differences in reading comprehension, measured by text-interpretation or reader-response, as between members of relatively powerful and relatively oppressed social groups, are social-structural in origin. Efforts to reduce these differences will inevitably encounter obstacles that arise from the material basis as well as the cultural differences between these oppositionally positioned social

fractions. To put it rather crudely, to learn to read and write skillfully by the criteria of the dominant class, you have to learn to identify with its class culture, and so with its interests and values. Or you have to be very good at faking it and willing to do so. Many members of oppressed social groups are perfectly happy to aspire to a dominant social status and ready to make the identity- and value- shifts needed to do so. Many more are not willing, and many simply cannot command the resources needed to make these shifts, willing or not.

A scientifically useful definition of skillful reading must recognize the inherent and inevitable class-bias in the criteria of what constitutes such a reading for most socially-valued texts. We need to understand the nature of this bias, where it is most prominent (e.g. at which scales of text organization, for which aspects of text meaning, in which genres, etc.), and just how it works to make it more difficult for other socially-positioned readings of or responses to a text to be counted as skillful or valued.

For related reasons, I would also recommend a more explicit conceptual integration of reading comprehension with skillful *writing*. There is a long tradition of critique of the separation of reading skills from writing skills in educational theory and curricula, from the political argument that readers are order-followers and idea-consumers while writers are order-givers and idea-producers to the semiotic argument that reading and writing, far from being inverse processes, are different modalities of the same process of making meaning with written text. There is no doubt that in our cultural tradition the dominant means of ascertaining whether or not skillful reading and insightful comprehension of a text has occurred is to look to an essay explicating the read text, which the reader has written. All other means of assessment are shortcuts designed to make assessment cheaper at some sacrifice in validity compared to this gold standard. Even oral assessment, or assessment by action-response, I think, fails to be as persuasive. For sophisticated texts, the point of reading, for members of the dominant class, is to provide a point of departure for writing. Skillful reading is judged in the last instance by what we have to say, and more especially by what we write about the texts we read.

Analyzing Judgments of Skillful Reading: A Closing Proposal

From a purely textual perspective all data on what counts as skillful reading is intertextual among three texts: the read text, the reader response text, and the evaluator's text comparing the first two. A scientific research program needs to move beyond simply contributing more third-texts in this triad to creating fourth-order texts that look at the triad itself as primary data. Doing so will force us to acknowledge our own kinship with the class of people who typically write third-order evaluative texts and to raise the issue of how robust our own fourth-order analyses can be across the range of possible social positions from which texts of all these orders can in principle be written. Critical reflexivity is nowhere so necessary in the human sciences as when we attempt to study a system of cultural values … and that is just what we study when we seek to understand what counts for us and others as skillful reading or insightful reading comprehension.

Two important elements of a research agenda on reading comprehension should be:

(1) the study of how read texts are transformed and developed in the various valued genres of writing that most directly explicate and analyze them, and

(2) the study of the relationships among overt and implied values and saliences in intertextual sets consisting of a read text, a written reader's response text, and a text which evaluates the response text in relation to the read text, all in a research design which includes writers from diverse social positions for all three texts in all permutations

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Items listed below are representative of the research perspectives on which the views expressed here are based. Each contains extensive citations to the relevant wider research literature.

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