ABSTRACT
                A review of current theory and research related to
writing ability leads to the conclusion that there is no existing
test, instrument, or set of procedures which will provide valid data
regarding the writing abilities of individuals. As an alternative
approach, a textual cognition model of written communicative
competence is proposed and elaborated. Arising out of the Trent
Valley Project of the Ontario Institute for the Study of Education,
the model is operationalized through an extension of the cloze
procedure from reading to writing. The underlying assumptions are
that written communicative competence implies that a student's
writing will make sense for an intended or relevant audience and
that, in turn, the cloze procedure will provide a valid measure of
the extent to which the writing does make sense to that audience. On
the basis of preliminary investigations, a taxonomy of impediments to
successful written communication is developed for problems at the
graphic, syntactic, lexical, and contextual levels. Questions
remaining to be answered about the textual cognition model and the
associated cloze procedure are listed. (AA)

Assessing Written Communicative Competence:

A Textual Cognition Model

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The Ontario Institute for Studies in Education

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Assessing Written Communicative Competence:

A Textual Cognition Model

In his 1974 book, Measuring Growth in English, Paul Diederich notes

that he is unable to envision a criterion-referenced test of

writing ability. It is a noteworthy observation, one likely to

be repeated by many test developers for some time to come.

The attempt adequately to assess writing and writing ability

by way of comprehensive lists of specific objectives and accompanying

test items is an enterprise fraught with difficulty and uncertainty.

For one, the criteria of "good" writing have never been isolated

in any enduring sense. Indeed, one noted critic, M. H. Abrams

(1953), has concluded that the criteria shift over time, particularly

with respect to factors of social stability and ferment.

Paul Diederich himself found in a study conducted for the

American College Entrance Examination Bo   (CEEB) that, when

duplicated, read and marked by many readers, virtually any writing

sample will receive virtually any evaluation--from superior to

falling. His study revealed that the evaluators held essentially
competing conceptions of "good" writing, conceptions which
included: quality of ideas, organization, style, spelling, and
mechanics. Though revealing in its own right, such vacillation
among judgments entails a nightmare of erratic decimal places
for the enterprising test developer who must be concerned about
such important matters as test reliability and validity.

In short, any authentic assessment of writing ability
must first cope with enormous problems entailed by the absence
of an abiding, lawful account of writing as an objective
phenomenon. For the testmaker, it is an issue of construct
validity in the absence of a construct, an issue which quickly
raises questions of evidence and documentation: What shall
the testmaker be valid and reliable about? What's worth
counting?

As a form of testing, criterion-referencing involves
still other problems of documentation, some of them astounding
in the extent to which superficially straightforward items can
readily and rapidly disintegrate into a maze of psychometric
bewilderment. Consider the plight of the ingenuous criterion-
referencer who decides to query the simple matter of writers'
placing commas regularly and appropriately after introductory

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subordinate clauses and phrases. Having decided to examine the

real thing--actual writing samples--the testmaker quickly

discovers:

(a) no guarantee that introductory subordinate clauses

and phrases will appear five times in a·fixed-length

writing sample for purposes of determining with

reliability the regularity of the writers' use of

said comma; and

(b) the disturbing probability that not all said commas

are qualitatively the same, that such variables as

complexity of syntax, as well as the writing task

in question and the mode of the writing need to be

taken into account.

Finding no apparent method by which to assess the comma

from writing samples, our criterion-referencer moves on to second

best--set test passages requiring the test taker to edit for

said comma and other items as well, perhaps in a multiple-choice

format. Pursuing this tack, the testmaker soon discovers:

(a) an uncertain relationship between editing for commas

and regularly using them when writing;

(b) a very uncertain relationship between editing for

commas in someone else's writing (i.e., the test

passages), and proofreading one's own writing; and

most important

(c) strong suggestions that the entire difficulty with
such efforts to assess said comma have less to do
with psychometric requirements involving the need
for five equivalent opportunities to look after said
comma, and more with the lack of an empirically
corroborated account of the entire phenomenon of
writing from which to begin test development.

The testmaker is essentially left with the question, "Why do we
punctuate anyway?" and has, in short, been stymied by a comma.

What accounts have been given to writing as writing,
particularly the process of learning to write and its instruction?
Though numerous and complex, such accounts cluster essentially
about two paradigms: a 'writer school' and a 'text school.'
Representatives of the 'writer school,' including James Moffett
(1965, 1966, 1967, 1968a, and 1968b), James Britton (1967, 1971,
1975, and 1977), and Janet Emig (1971), assume that an understanding
of writing as writing must begin with an examination of the writer
and the nature of language, not the text. Moffett's treatise,
Teaching the Universe of Discourse (1968a), is one of the keystones
of English education, both in its substance and the scope of
its scholarship. By way of a philosophical tradition involving
Suzanne Langer, and extending ultimately through Ernst Cassirer
back to Immanual Kant, Moffett incorporates many of the principles

of developmental cognitive psychology into a revolutionary frame-
work which astutely and persuasively transforms compostion as a
pedagogical concept from noun to verb, from subject for study
(as in "Rhetoric") to symbolic, communicative behavior. Writing
is conceived as behavior involving relations between writer and
topic, as well as between writer and audience. Schematically,
Moffett's conception of maturing competence in writing can be
represented as follows:

FIGURE ONE.
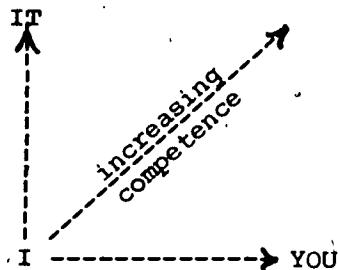
Britton shares many of Moffett's assumptions. In terms of
scholarship, his work is noted for the depth to which he probes
the philosophical roots of the Langer tradition, as well as for
his examination of the contributions of psychology (particularly
the personal construct theory of George Kelly [1955]) to an
understanding of the writing process. Perhaps Britton's seminal
contribution is his exploration and clarification of the fundamental

role of expressive language in the writing process and its development. While language for Britton, as for Moffett, is the symbolic embodiment of events, its development is said to be most complete when adequate allowance is made for talk in a context of social neutrality; talk "close to the self"; "unstructured," easy conversation; "loaded commentary on the world"--in short, the expressive. For Britton, such talk is the generative foundation of (a) structured language that gets things done (transactional language; e.g., the business memo or the explanation), and (b) language given artful form (poetic language; e.g., fiction and poetry). Schematically, Britton's concept of language functions is as follows:

FIGURE TWO.

TRANSACTIONAL ◀-------- EXPRESSIVE --------▶ POETIC

Focus on the writer is apparent, too, in Emig's The Composing Processes of Twelfth Graders (1971). Emig supports Britton's postulation of the expressive, and she finds its bifurcation in the concepts reflexive and extensive:

FIGURE. THREE.

EXPRESSIVE

REFLEXIVE   field
of
discourse   EXTENSIVE
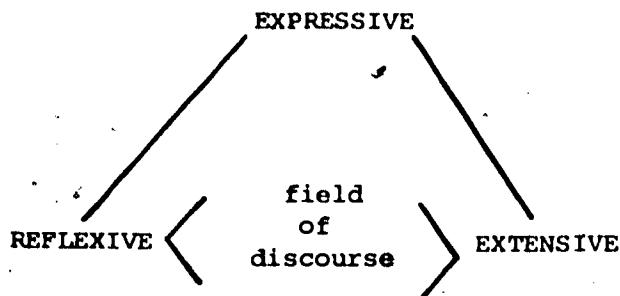
Reflexive writing is essentially contemplative; extensive writing

is essentially communicative. There are obvious and important

similarities between Emig's reflexive and extensive, and Britton's

poetic and transactional, not the least of which is common ground

in the expressive, as well as bifurcation along lines of the

writer's relationship to the field of discourse. Emig follows

Moffett in recasting writing as a curricular concept from noun,

to verb; and in her choice of the term "composing" (as opposed

to "composition," as in what's-due-in-English-class-on-Friday),

she effectively stresses the artful, skillful, and personal

aspects of the enterprise.

The essence of Emig's interests, though, is perhaps

captured most completely by her choice of case study as a research

methodology. To investigate the composing process, she asked

eight-twelfth graders to talk out their compositions as they

wrote them. In so doing, she not only took advantage of a

well-established research methodology (albeit one never used to

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investigate language matters) to investigate with some rigor

very uncharted territory; she effectively underscores by her

method of investigation the seminal role of the writer in writing.

Emig essentially reminds her readers that the text of a

composition is far more than just so much print. To understand

writing as writing, as well as to play a positive role in its

development, Emig emphasizes the need for the teacher to

conceptualize the text properly within the context of the

composing act itself. The text is but an important consequence

of this fundamental process, and it is mistreated, because

misconceived, when it is red-marked into a cause célèbre of

neglected amenities.

By contrast, representatives of the 'text school,'

including Kellogg Hunt (1964, 1965), Roy O'Donnell et al (1967),

John Mellon (1969), and Frank O'Hare (1973), assume that the

appropriate locus of instructional intervention is the text.

Attempts to account for the writer as writer are conspicuously

absent, though the origins of the approach are attributed to

Noam Chomsky's theory of syntax (1957). Citing Chomsky, Hunt

first proposed mean T-unit length in (1964) as a valid measure,

of syntactic maturity. An abbreviation for "minimal terminable

unit," a "T-unit" is an independent clause with all of its

subordinate clauses and modifying phrases. Hunt found sequential

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increments in mean T-unit length when he compared the writing of older students with that of younger children. Mellon and O'Hare followed with the development of a classroom pedagogy of sentence-combining exercises which were found to increase syntactic maturity (i.e., T-unit length) significantly beyond what might be expected from normal development. Most recently somewhat extravagant claims have been advanced that sentence-combining effectively enhances cognitive development (Strong, 1976).

To what extent are the above accounts of writing as writing adequate for the purposes of ability testing? To what extent is writing understood as an objective phenomenon? In a final analysis, it is difficult to disagree with Emig's acknowledgment of Hunt's (1965) characterization of our knowledge as essentially 'alchemic' (Emig, 1971, p. 5). Philosopher Karl Popper's (1959) principle of falsifiability as the criterion of demarcation between metaphysics and science perhaps underscores the chief distinction to be made in this regard. According to Popper, the conditions of science as an enterprise require the possibility of refutation by experience. Furthermore, while successive theories are distinguished by their increasing abstractness (i.e., their powers adequately to subsume increasingly more events), theories which are aimed too high (i.e., too high too soon given existing frameworks) give

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rise to metaphysical, rather than scientific systems. A

particular system of thought may possess a ring of plausibility,

but without the possibility of a crucial experiment to test it,

i.e., without the possibility of refutation in experience,

the system remains speculative, not empirically borne out as

lawful. Such a distinction, of course, does not in any way

denigrate metaphysics as an enterprise in its own right.

Tenets of the 'writer school' may, for the most part,

be characterized as fertilely metaphysical and richly

speculative, but nonetheless metaphysical. Moffett, for his

part, explicitly disclaims scientific evidence as a foundation

for his Student-Centered Language Arts Curriculum, K-13 (1968b),

confessing "both my ignorance and that of the whole profession"

(p. 29). Britton et al recently completed an empirical study

of The Development of Writing Abilities: 11-18 (1975), providing

a valuable description of types of classroom writing across the

curriculum in London, as well as an elaboration of his categories.

With the possible exception of clarification of the required

conditions for expressive writing, however, the study did not

confirm any hypotheses about writing as writing. Of Emig's

(1971) four summary hypotheses, only one is genuinely falsifiable

(#4. For twelfth-grade writers extensive writing occurs chiefly

as a school-sponsored activity; reflexive, as a self-sponsored

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as a school-sponsored activity; reflexive, as a self-sponsored

activity), though it may be possible yet to put other aspects of her work to the test.

Increases in T-unit length over age is, of course, an empirical finding, though clarification of what has been found is perhaps in order. First, the increases described by Hunt (1964, 1965) and O'Donnell et al (1967) are based on analyses of mean T-unit length for samples of students; in effect they are age-related norms. Also, the studies are cross-sectional. The problems in using cross-sectional data from group studies to comment on individual development have been discussed by Wohlwill (1973) and demonstrated by Schaie and Labouvie-Vief (1974). With specific reference to T-unit differentials, Harold Rosen of the University of London has shown that individual writers who write well exhibit greater variation in T-unit length across language functions than across age (1969). Furthermore, the contention that sentence-combining as a pedagogy produces growth significantly beyond what might be expected normally reflects a confusion of norms with goals. In effect, this conflation serves ironically to convert the competence model of Chomsky's theory of syntax into a performance model; "can do" becomes "will do more regularly." While Hunt's original identification of the T-unit as a measure of syntactic maturity may be valid, instructional interventions.

which deliberately promote longer and longer T-units, producing

"gains beyond the expectations of normal development," are

misfounded, and potentially lead to categorical preferences

for styles closer to that of Henry James than of Ernest

Hemingway, all in the name of "maturity." It is in this final

absurdity that the account breaks down; while normative increases

in T-unit length may be predicted and confirmed in large scale

empirical studies, equating individual competence or ability

with normative performance of the group--and then some--does

not follow logically.

In short, writing ability as an empirical construct has

no established validity, and there is currently no existing

test, instrument, or set of procedures which will provide

authentic data regarding the writing abilities of individuals.

Compared to a protozoan-like knowledge of writing as writing,

currently available methods of assessment are barely amoebic.

The following model, called Textual Cognition, is a

proposed account of written communicative competence. Although

it has undergone some initial investigation and development,

it should be regarded as pre-experimental, but nonetheless open

to empirical investigation. Its greatest importance at its

current stage of development may reside in its highlighting

of cloze as a fertile and flexible technique for assessing

aspects of language besides reading. Essentially, the ultimate objectives of a textual cognition approach are to meet the criteria of ontological assessment:

(a) foundation in an empirically lawful account of writing as a phenomenon; and

(b) capability of generating educationally useful data.

While efforts to derive a viable criterion-referenced approach to writing assessment floundered from the very start of the Trent Valley Project, we spent some time early on pursuing what for us was a novel use of the T-unit. We speculated (not knowing Rosen's [1969] research) that if good adolescent writers were to write on the same topic for two distinctly different age groups (e.g., "The Meaning of Christmas," once for adults and once for seven-year-olds), one aspect of their success and ability might be measured by a suitable *differential* in mean T-unit length, in essence a measure of their awareness of their readers' needs. After deciding that such a columnist as Russell Baker might just win a Pulitzer Prize while proving us wrong, but also while reasoning that successful communication to a child involves special restrictions on the writer, we were forced to give up this use of the T-unit. We were particularly unsuccessful in specifying appropriate differentials.

For some time thereafter we made little progress on
writing assessment, though reading assessment seemed to move
forward as we investigated the use of cloze to assess compre-
hension. In the throes of these considerations (about March
of 1976), we struck upon the possibility of using cloze to
assess writing. Taylor in (1953) had originally researched
the use of cloze to measure readability with a given group of
readers. We reasoned that cloze might be used as an empirical
measure of success in written communication <u>providing</u>
<u>the relevant readers were identified either by or for the</u>
<u>writer before writing</u>. Accordingly, we hypothesized that the
cloze scores of the actual audience might be taken as a
measure of the success of the writer in making sense for the
intended readership. Happily, we found theoretical support in
Moffett's (1965) concept of the "I-->YOU" dimension, and in
Britton's (1975) concept of audience categories.

In March of 1976, Mrs. Jean Laidlaw of Lennox and
Addington suggested what were to become our audience categories,
and the following was formally committed to paper:

<u>Proposed Construct</u>

Competence in written communication requires awareness on the part
of the writer, as reflected in performance, of the needs of the
reader to make sense of the written text. While these semantic
needs will have syntactic, graphemic, morphemic, and discourse-
related components, the test of the writer's competence is to be
found in the extent to which intended and relevant readers are

able to ascertain intended relations between and among words and
sentences in the discourse. Writers will succeed or fail in
writing tasks significantly to the extent that they control
shared, relevant terms of expression (rules of use).

Objective

In written communication (informational prose), student will
make sense for an intended or relevant audience.

Procedure for Assessment (Suggested)

Given a 150 word sample of informational prose with the audience
specified, the clozed sample will be found readable at a level of
.50 or better (?) for the relevant audience.

The sample may be taken at random from the writing folder, or may
be elicited in a controlled setting.

The audience domains are:

1. Writer to Known Peer	2. Writer to Known Adult	3. Writer to Not Necessarily Known Peers (random sample of five classmates)	4. Writer to Not Necessarily Known Adults (random sample of three teachers)
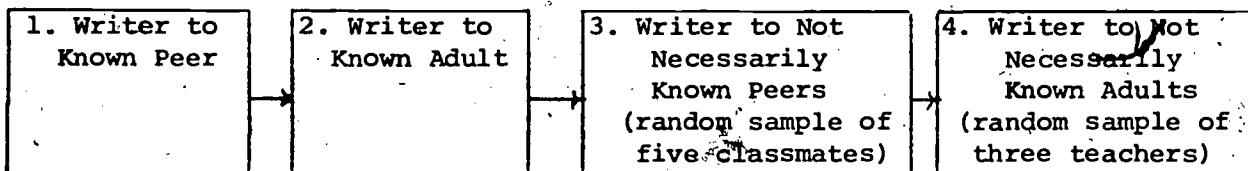
That same March, Mr. Frank DiNoble and members of his staff

in Leeds and Grenville assisted in informal and encouraging probes

of the technique when eighth grade writing samples from POCED

testing in that county were clozed and read by duly authentic

not-necessarily-known adults as specified in the original Leeds

and Grenville request for writing samples.

In November, ten adults from four boards gathered at the

Trent Valley Centre to work twelve clozed writing samples, all

by eighth graders, and all from the March POCED testing program.

All writing samples were clozed and typed in an end-of-the-line format. The following two forms are representative. The first is a writing sample clozed; the second is the sample in its entirety with discrepant reader guesses in parentheses at the right.

TOPIC: Does the Government Have the Right to Impose
Laws on Us for Our Own Protection?

Yes, I _____	think
that the laws are _____.	okay
The people that puts _____	out
the laws are doing it _____	for
us to help us, _____	not
to hurt us. The seat _____	belt
law, since they made us _____	use
it my sister _____	said
that there isn't so _____	many
head injuries on U-2 _____	where
she is nursing. And the _____	laws
hasn't come out yet _____	about
death penalty but I _____	think
they should, because I _____	think
there won't be so _____	much
crime. I also think the _____	OPP's
could be harder on the _____	people
that steal, kill and _____.	rapes
And the law for _____	going
over 60 on the _____	401
that is to _____	help
us to save _____.	gas
But I am just _____	one
person with my _____	ideas
and it might be _____	different
then my friends, family and _____	maybe
you judges. I believe _____	in
all laws, some even _____	sounds
crazy but, what there _____	doing
_____ for us.	

(FOLD BACK HERE)

Adult Responses to Clozed Writing Sample

```
 1   Yes, I think
 2   that the laws are okay.      (2 good; right; 3 alright)
 3   The people that puts out       (3 down; 2 on; together; forth)
 4   the laws are doing it for      (3 to)
 5   us to help us, not
 6   to hurt us.  The seat belt
 7   law, since they made us use    (6 wear; okay; do)
 8   it my sister said      (4 says; knows; feels)
 9   that there isn't so many
10   head injuries on U-2 where     (because)
11   she is nursing.  And the laws     (6 law; decision; government; police)
12   hasn't come out yet about      (against; on; 2 for; ------)
13   death penalty but I think
14   they should, because I think      (know)
15   there won't be so much      (many)
16   crime.  I also think the OPP's     (police; 4 law; 3 laws; courts)
17   could be harder on the people      (criminals; kids)
18   that steal, kill and rapes.     (------; 6 rape; 2 rob; speed)
19   And the law for going   (3 driving; speed; 4 speeding)
20   over 60 on the 401'    (6 highway; highways; ---------)
21   that is to help      (2 make)
22   us to save gas.      (4 lives; ourselves; money)
23   But I am just one
24   person with my ideas      (10 opinions)
25   and it might be different      (that; wrong; alright; better)
26   than my friends, family and maybe      (teachers; others; also; police;
27   you judges.  I belive in      (5 that)                              ale; even)
28   all laws, some even sounds      (4 are; slightly; so; maybe; 2 is;
29   crazy but, what there doing                               2 are; for)
30   is for us.
```

Our main effort, after scoring for readability, was to

account for discrepancies between the writers' original words and

the readers' wrong guesses. To account for these discrepancies,

it was posited that individual writers' tasks in communicating

successfully involve adequately constraining the readers, i.e.,

sharply d miting the predictions they are likely to confirm in

reading. This single assumption suggested the following taxonomy.

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of relevant written constraints:

(a) graphic constraints, which include the formation of letters
and words, as well as rules-of-use regarding spacing. To constrain
a reader graphically should not be taken to suggest an aesthetic
and/or decorative handwriting, but is intended more to suggest the
extent to which handwriting is a subsidiary, not a focal element
of the text (Polanyi, 1958). Misspellings normally are not
significant impediments to communication;

(b) syntactic constraints, which include factors which affect
readers' abilities to reduce their uncertainties regarding a text
with respct to sentence structure. While a confusion of homonyms
(e.g., your for you're), or the omission of certain marks of
punctuation (e.g., the comma in By the time we had finished
our dinner was ready.) will "misconstrain" the reader specifically
in terms of syntax, such·non-standard usages as He done it or
between you and I normally are not impediments to written
communication. Usage in the sense of traditional textbooks of
rhetoric is not often a significant communicative factor;

(c) semantic and lexical constraints, which include the extent
to which particular words within sentences are meaningful to
the readers involved. Words labeled "jargon" are often matters
of inadequate semantic constraint, or semantic "misconstraint"
on the part of the writer. For those who are not part of the
readership of this paper, for example, the expression "graphic

constraint" is without question jargon, a mystifying and obscure term for handwriting. Hopefully such is not the case for this author's intended readers; the intention here hopefully coincides with the readers' ascribed meanings; and

(d) contextual constraints, which refer to general elements of setting for the writing, including such factors as format, mode and title, as well as all of the above aspects of the discourse which are not specific to the sentence in question.

Another list (called misconstraints) then followed as the discrepancies were identified and simultaneously classified taxonomically from the writing samples. Attempts (not always successful) were made to state all categories and classifications according to a criterion of empirical falsifiability. No testing was in fact conducted. The taxonomy as presented here is a matter of record; it has since become necessary to revise the account by introducing additional assumptions.

Initially Proposed Taxonomy of Possible Misconstraints
(as of 10 November 1976)

II Syntactic misconstraints: factors in written communication which affect readers' abilities to reduce uncertainty regarding a text with respect to sentence structure.

a. spurious: misleading or ineffectual cueing systems resulting in ambiguity or impasse on the part of the reader. Including:

homonyms: Your ___ going to get where you're going with a seat belt on. (still)

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punctuation: *By the time we had _____ our dinner was ready.*
(*finished*)

b. <u>preemptive</u>: an overriding of redundancy caused by dysfunction of function words.

I do not think that the government has the right to impose laws for our own safety. The (majority) of us Canadians should _____ up to us within a certain extent. (safety);
(*be*)

The determiner "The" (start of second sentence) is in this case dysfunctional in the sense that it functions to override the redundancy of "safety" (repeated in the second sentence.)

c. <u>impacting</u>: high syntactic density caused by the clustering of identical syntactic units; information overload resulting from "impacting" adverb on adverb; preposition on preposition, noun on noun, etc.

The people who wore seatbelts before the law was enacted are still (_____) the only people who wear them now.
(*probably*)

<u>Note of interest</u>: The following is <u>not</u> a syntactic misconstraint:

Canadians are very upset at the number of people who have ben killed or (are) badly injured. (very)

<u>Are</u> and <u>very</u> are entirely plausible syntactic choices and do not alter the meaning of either possible sentence substantially.

III <u>Semantic-lexical misconstraints</u>

a. <u>exclusional</u>: use of words and expressions which are mistakenly assumed to be common currency to readership.

The law { on controlling for } drinking is for your own safety . . . .
(*against*)

The writer is assuming an audience of peers exclusively; s/he neglects that not everyone is prohibited by law from drinking. The specific readership has been excluded.

IV **Contextual misconstraints**: discourse-related factors of the textual setting.

    a. <u>interpositional</u>: unanticipated intrusion into a predicted
       - linearity of discourse.

        The people in the back hit the front seat and <u>what do you</u>
        <u>*know*</u> *some of the people have broken noses!*

    b. <u>irreplete</u> or <u>abortive</u>: rarefaction of cueing systems
        resulting in information loss (the opposite of impaction).

        This (_____) law is for our protection. Let's say you
        are driving along and a dog runs across the road in front
        of you. . . .) The people in the front are going to to
        through the windshield or dashboard. (<u>seat belt</u>)

        The Government always has good in mind but it often inforces
        laws that don't please a lot of people. For instance the
        (<u>driver</u>) legislations; Canadians are very upset at the
        number of people who have been killed or very badly
        injured because of the seatbelts. Also the laws have
        been changed too many times . . . . (<u>seatbelt</u>)

    c. <u>disjunctive</u>: unprepared shift in an expected, predicted
        linearity.

        (paragraph on seat belts) . . . I think that the _____
        will get used to these new laws, and people will see the
        laws the government put out are for our protection.
        (<u>snowmobilers</u>)

    d. <u>antecedal</u>: miscue resulting from a prior semantic, lexical
        ambiguity.

        I think the law did have our good in mind when they inforced
        speed limit laws, and raised the drinking and smoking ages.
        They (_____) that the laws would decrease the number of
        teenage smokers . . . . (<u>felt</u>)

    e. <u>classificatory</u>: discrepant classificatory systems.

        They felt that the laws would reduce the number of teenage
        (<u>drivers</u>), teenage drinkers, and teenage (<u>smokers</u>).
        (<u>smokers</u>)(<u>accidents</u>)

f. <u>abortive modulate</u>: unpredicted shift in an anticipated
    linearity, which detracts from the reader's sense of
    reliability with respect to predictability within the
    discourse in question.

    Paragraph develops idea that legislators do not always
    consider the full implications of their propositions
    before passing them. Paragraph concludes as follows:

    . . . Canadians are very upset at the number of people
    who have been killed or very badly injured because of
    seatbelts. Also, the laws have been (<u>ignored</u>) too
    many times, from all (<u>passengers</u>), to no belts for
    children; to no shoulder belts if they are not connected.
    I find it very sickening. (<u>changed</u>); (<u>belts</u>)

g. <u>disjunctive modulate</u>: unpredicted variation in an
    anticipated linearity of discourse.

    Paragraph development concerns speed limits followed by
    teenage drinking: .

    . . . The law against drinking is for our own safety
    but there are likely more drunks under age than there
    are lawfully. Laws about the driving age are (<u>also</u>)
    for our safety so that there would not be so many . . .
    inexperienced drivers. (<u>made</u>)

Subsequent considerations of the above taxonomy have suggested

that, while useful, the concept "misconstraint" is inadequate as a

generic account for all discrepancies encountered. In particular,

those misconstraints labeled <u>impaction</u> and <u>rarefaction</u> do not seem

to be "misconstraints," if the term <u>misconstraint</u> is taken to suggest

"being lead astray," or "allowed to stray." When readers draw

blanks, for example, a more plausible explanation is that they

have been <u>inadequately</u> or <u>overly</u> constrained, not <u>misconstrained</u>.

Such considerations suggest an account of <u>writing ability</u>
as <u>a sense of textual space on the part of the writer</u>. Such
considerations also suggest an account of the <u>text</u> as <u>a set of</u>
<u>figure and ground relationships with respect to the page</u>. Writing
ability in these terms may be thought of as <u>textual cognition</u>,
an awareness on the part of the writer (in Emig's sense, the
composer) that a stage is being set, a perceptual space prepared;
and that, like the playwright, the composer probably will not be
present when the audience attends.

In many respects, the demands of textual cognition are
analogous to those implicit in the photographer's task. If, as
a photographer, I choose to show you the constellation Orion, for
example, I fail by showing you the entire Milky Way (FIGURE FOUR).
I also miss by showing you only two stars from the constellation
itself (FIGURE FIVE). I succeed only when I frame the relevant
st▮ (FIGURE SIX), and I succeed precisely because I have attended
to *com-position*, allowing you by constraining you to form a
meaningful image. I have shown you Orion, largely because you
can see Orion.

Choosing-to show-you-Orion may in many respects be
taken to define the generic task of the writer, too, and an
adequate account of writing as writing must come to analytic
grips with (a) the writer (<u>choosing</u> ▮ ▮how you Orion),

FIGURE FOUR.   The Milky Way

FIGURE FIVE.   Two Stars from the Constellation Orion

FIGURE SIX.   The Contellation Orion
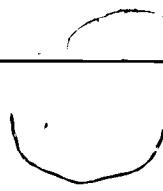
(b) language functions (e.g., showing you Orion), (c) the

reader (showing _you_ Orion), and (d) the topic (showing you

Orion).

This Project's explorations currently suggest at least

three basic, possible impediments to written communication.

These impediments are here defined as _distortions of textual_

space:

(a) _misconstraint_, or cueing systems which lead to

confirmation of aberrant predictions;

(b) _impaction_, or a dense compounding of cueing systems

resulting in readers' inabilities to discern

significant differences and regularities for

purposes of prediction (information overload); and

(c) _rarefaction_, or inadequate presence of relevant

cueing systems, resulting in readers' inabilities

adequately to confirm predictions.

These distortions of textual space are possible on four

levels: the _graphic_, the _syntactic_, the _lexical_, and the

contextual. The graphic representation on any page is essentially

a matter of figure and ground relationships, meaning that what

is left _unmarked_, as well as _the spacing between words, strokes,_

and letters, is as important as those strokes of ink that are left

inscribed. When graphic representations fail to establish figure

and ground relationships, the native reader's criticism is usually
directed at a "poor handwriting" or an "unreadable script." An
analysis of unsuccessful scripts reveals the three basic
distortions:

> I.A.   graphic misconstraint: *now here* for nowhere; or
>
> (compliments of the researcher's father)
> *pony stall* for P. O. Nystrand.
>
> I.B.   graphic impaction: *lt* for let.
>
> I.C.   graphic rarefaction: n o w h e r e

While the traditional defintion of the sentence as a unit
expressing a complete thought is rough hewn to say the least
(Is the number of ideas in Macbeth equal to the number of
complete sentences in the script?), there is a sense of complete-
ness or closure about the subject-predicate unit known intuitively
to any fluent writer. This aspect of textual space can also be
distorted in the three basic ways:

> II.A.   syntactic misconstraint: presence of cues which,
>   for the readership, generate syntactic predictions
>   which cannot be confirmed on syntactic grounds
>   alone. A confusion of homonyms (e.g., your and
>   you're; their, there, and they're) is an example:
>   your signals a noun phrase to follow, while you're
>   indicates a verbal.

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II.B. <u>syntactic impaction</u>: high syntactic density

resulting from the clustering (multiple embeddings)

of kernels, and causing readers' inabilities to

predict. Consider the following sentence:

In sum, we are dealing with a set of schemata whose
dual nature stems from the fact that, whereas
their structuring presupposes formal reasoning,
they also derive from the most general characteristics
of the structures from which this same formal thought
arises. (Inhelder and Piaget, 1958, p. 106)

II.C. <u>syntactic rarefaction</u>: Inadequate presence of

relevant syntactic unit(s) resulting in readers'

inabilities adequately to confirm predictions, as

in the sequence *When I stopped pandering temporarily*

with no further context.

Words have their meanings in their uses and their potential

uses. Words have meaning to the extent that they are "combinable"

or "relatable" by native/speakers. Lexical distortions of textual

space are possible as follows:

III.A. <u>lexical misconstraint</u>: literally the "wrong word."

Consider the following example: *The law* $\left\{\begin{array}{c}for\\ \underline{controlling}\\ on\end{array}\right\}$

drinking is for your own safety . . . (against).

The writer is writing for an audience of adults, yet

is assuming an audience of peers exclusively: she

neglects or forgets that not everyone is prohibited

by law from drinking. The specific readership has
been excluded.

III.B. _lexical impaction_: excessive use of words which,
for the readership, possess a bewildering number of
possible and potential combinations, to the extent
that readers are unable to discern significant
differences and regularities for purposes of
prediction. Consider the following examples:)

Concepts and the language that infuses and implements
them give power and strategy to cognitive activity.
(Bruner, cited in Rosen [1967]).

III.C. _lexical rarefaction_: excessive use of words which
are obscure in the sense that their non-syntactic
relationships and potential relationships with other
words are nebulous to the readership, resulting in
readers' inabilities to confirm predictions. Jargon
to the uninitiated is an example.

Many aspects of written communication are matters of the
textual space normally referred to as context, not the text
strictly speaking. A love note typed on letterhead stationery
has a meaning different from the same message written on perfumed
parchment; conversely, notes of transaction inscribed on
perfumed parchment have a meaning different from the same on
letterhead. Contextual aspects of textual space refer to general

elements of setting for the message, including such factors as

format, mode and title, as well as aspects of discourse not

specific to the sentence in question. Contextual distortions

of textual space include:

> IV.A. <u>contextual misconstraint</u>: aspects of the text
>
> beyond the sentence in question which generate
>
> aberrant predictions within the readership in
>
> question. For example:
>
> *Paragraph on seat belts concludes:*
>
> *I think that the _____ will get used to these new laws, and people will see the laws the government put out are for our protection. (snowmobilers)*
>
> IV.B. <u>contextual impaction</u>: insufficient context, i.e.,
>
> an inadequacy of text beyond the sentence in question
>
> resulting in stymied readers, unable effectively to
>
> discern significant differences and regularities for
>
> purposes of prediction. For example:
>
> *Paragraph development concerns speed limits, followed by comments on teenage drinking. Concludes:*
>
> *. . . The law against drinking is for our own safety but, there are likely more drunks under age than there are lawfully. Laws about the driving age are (also) for our safety so that there would not be so many . . . inexperienced drivers. (made)*
>
> IV.C. <u>contextual rarefaction</u>: absence of an expected

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order* with respect to an established linearity of
text beyond the sentence in question, resulting in
readers' inabilities to confirm predictions. For
example:

> *This (_____) law is for our protection. Let's*
> *say you are driving along and a dog runs across the*
> *road in front of you. . . . The people in front*
> *are going to go through the windshield or dashboard.*
> *(seatbelt)*

All of the above distortion types are summarized in the typology

presented on Page 32.

In conclusion, a fully developed textual cognition model.

utilizing cloze seems to be a promising avenue of research and

evaluation for written communicative competence. Before such

objectives can be achieved, however, several research questions

need answers:

1. What empirical evidence can be presented to corroborate
   the validity of the proposed construct?

2. How are cloze scores from writing samples to be inter-
   preted? Is a high score categorically superior to a
   low? It is probable that a very high score might be
   indicative of a very poor piece of writing in the
   sense of being overly redundant.

3. For the purposes of assessment, what are the comparative

---

* The French philosopher Henri Bergson defines chaos as "the
absence of an expected order" (Évolution créatrice).

merits of various selective deletion strategies,

and the traditional every-fifth-word deletion

strategy?

4. What are the lower age limits of the method's

usefulness?

5. What can be said about the validities and reliabilities

of the proposed audience categories?

These are essential questions regarding the assessment

of written communicative competence which the Trent Valley Project,

for lack of time and resources, was unable to investigate.

TYPOLOGY OF TEXTUAL SPACE DISTORTIONS

Distortion Type

Level of Analysis	A. MISCONSTRAINT	B. IMPACTION	C. RAREFACTION
I. GRAPHIC	I.A. graphic misconstraint *[signature]* for "O Nystrand"	I.B. graphic impaction *[mark]* for "let"	I.C. graphic rarefaction N O W H E R E
II. SYNTACTIC	II.A. syntactic misconstraint *Your _____ going to get where your _____ with a seat belt on. (still) (going)*	II.B. syntactic impaction *The people who wore seat belts before the law was enacted are still _____ the only people who wear them now. (probably)*	II.C. syntactic rarefaction *when I stopped pandering temporarily*
III. LEXICAL	III.A. lexical misconstraint *[The law {on controlling for} drinking __s for your own safety (against)]* *written to adults*	III.B. lexical impaction *[Concepts and the language that infuses and implements them give power and strategy to cognitive activity] to most people.*	III.C. lexical rarefaction (use of jargon with the uninitiated)
IV. CONTEXTUAL	IV.A. contextual misconstraint *Paragraph on seatbelts:* *I think that the _____ will get used to these new laws, and people will see the laws the government put out are for our protection.* *(snowmobilers)*	IV.B. contextual impaction *For most people:* *[Epoché is the suspension of belief in the ontological characteristics of experienced objects (Schütz, 1970, p. 317)] for most people.*	IV.C. contextual rarefaction *This _____ law is for our protection. Let's say you are driving along and a dog runs across the road in front of you. . . . The people in the front are going to go through the windshield . . . .* *(seatbelt)*
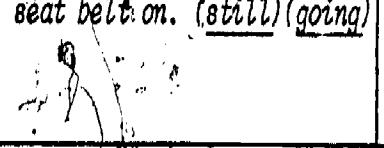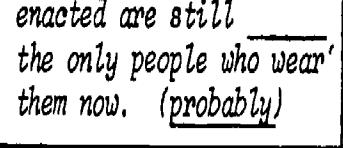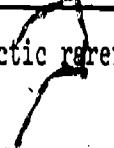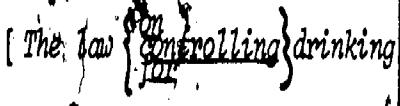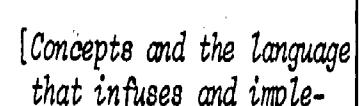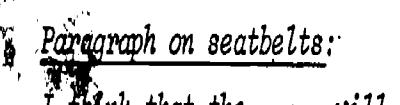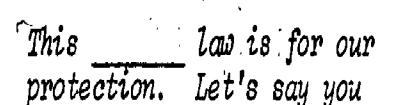
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