A COMPARATIVE STUDY OF THREE READIBILITY METHODS
IN AN INTERGROUP COMMUNICATION SITUATION

by

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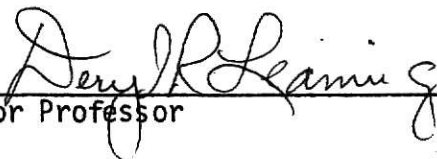
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INTRODUCTION

The headlines of today's papers and journals are full of references to communication gaps, generation gaps, and credibility gaps--either real or imagined. These writings suggest an increasing pattern of stratification with more ethnic and cultural distinctions, specialized roles, interest groups, distinct social classes, and greater social distances. With the current emphasis on divisions and gaps, the question arises: Is communication between individuals from different groups, classes or roles affected by these social distinctions.

An immediate, and probably superficial response, would be simply "no." Regardless of social position or class, most Americans speak English and most are a product of the American public school system which is a powerful instrument of socialization--and standardization.

However, one can't ignore the pleas from groups throughout society for spokesmen who "speak their language." Welfare mothers hire professionals to negotiate with the bureaucracy. Militant city planners serve as "advocates" for neighborhoods and speak in their behalf with municipal officials. Communication problems apparently exist between parents and children, teachers and students, employers and employees, doctors and patients, government officials and lay citizens, black and white, and the affluent and the poor.

These communication gaps are characterized by a lack of understanding--and sometimes misunderstanding. This problem in understanding is not limited to either interpersonal communication or mass communication--both are afflicted by "gaps." Nor is it restricted to either written or verbal

communication--if the words don't make sense, it doesn't matter if they are written or spoken.

In other words, communication (regardless of form--written, spoken, interpersonal, or mass) which is intended to bridge the gaps between groups is of major significance to modern society. This is an area of communication which has been largely ignored by researchers. Studies have been conducted and theories developed by anthropologists, psychologists, linguists, psycholinguists and semanticists in the areas of interpersonal communication, intra-personal communication, and communication patterns within groups.[1] Seldom has research considered communication between groups, which this paper shall refer to as intergroup communications.

Therefore this study will compare several methods of analyzing written communication for linguistic factors which affect intergroup communication situations. The specific situation involves messages prepared by the professional city planner for his lay general public. This study is a product of this researcher's experiences and frustrations as an Information Officer for an urban renewal agency. Although this research project is focused on only one small factor in the total communication process, it is hoped that the results may be of some value to those well-meaning and sincere planners and city officials whose own words, too often, are their worst enemies.

CHAPTER I

SURVEY OF PROBLEM AREA

The statement of the problem included several concepts which needed to be defined and discussed in detail before the design of this research project could be developed. The concepts of intergroup relations, communication and understanding, language factors, and intergroup communication situations have roots in several different disciplines. Literature relating to the problem area, therefore, is found in psychology, sociology, social psychology, linguistics, psycholinguists, semantics, and communication theory. Because of the variety of disciplines involved, the first problem in the development of the research design was to gather the definitions and reconcile differences.

Intergroup Relations

The concept of intergroup relations suggests that individuals are members of groups, that the groups are distinct, and that the groups relate with one another. Sociologists look at groups as people together. A more formal definition of groups is from the Dictionary of Sociology:

> Group--Two or more people between whom there is an established pattern of psychological interaction; it is recognized as an entity by its own members and usually by others, because of its particular type of collective behavior.[2]

Social-psychologists are primarily concerned with individuals in groups and tell us that, "Every individual . . . is a member of many groups--groups which are vitally significant to his individual welfare."[3] The concept of group membership is recognized as a major force in American society.

In spite of the concern for mass consumption, mass communications, and mass audiences, American society is still characterized by divisions and special interests. Herbert J. Gans, a political scientist turned city planner, comments, "America has long been a pluralistic society and even encourages cultural and ethnic and religious pluralism." In criticism of the concept of mass America he further commented, "Today America is so hetergeneous that it's really a nation of minorities."[4] Whether called stratification or political pluralism, the concept of distinctive groups is widely recognized.

Classifications.--Groups can be analyzed and compared in a number of different ways. The social-psychologists who wrote the book, Individual and Society, classify groups into two categories: "psychological groups" and "social organizations." They define the first category thus:

> A psychological group may be . . . two or more persons who meet the following conditions: (1) the relations among the members are interdependent--each member's behavior influences the behavior of the others; (2) the members share an ideology--a set of beliefs, values, and norms which regulates their mutual conduct. This ideology is developed as the members of the group work together on common tasks and, in time, this ideology becomes, to some degree, peculiar to them as members of the group and sets their group apart from other groups.[5]

Examples of psychological groups cited by the authors include families, friendship circles, and work, religious, and political circles.

Regarding social organizations, the authors continue, "Many such groups are functionally related to other groups, and taken together, form social organizations. A social organization may be defined as an integrated system of interrelated psychological groups formed to accomplish a stated objective."[6] Examples of social organizations are political parties, church congregations, fraternal clubs, and labor unions.

These two basic distinctions are widely recognized although sociologists tend to refer to psychological groups as primary groups and social

organizations as secondary groups. The Dictionary of Sociology defines the two concepts in the following manner:

> Primary Group--A (functional, human) group characterized by affectional (as vs. utilitarian) motives, direct face-to-face or intimate contact, and (because of the limitations on these) small size.

> Secondary Group--A group-form distinguished from a primary or face-to-face group by its type of social contact and degree of formal organization. The secondary group is larger and more formal, is specialized and indirect in its contacts and relies more for unity and continuance upon the stability of its social organization than does the primary groups.[7]

Both approaches look at the bonds between the members and the type of relationship. The sociologists point to affection and the social psychologists look at ideology. The sociologist describes the contact as face-to-face and the social psychologists see the relationships as "interdependent." The characteristics identified in both definitions seem to be similar although the social-psychologists are more concerned with the motivational aspects of group membership.

Within these two broad categories there are additional classification systems, which consider such factors as class or hierarchy, groupings or common attributes and interests, spatial relations or position and size, resources of wealth, and function or role. Two of these factors are particularly significant in developing the concept of intergroup relations. These are class and role. Krech, Crutchfield and Ballachey define role as follows:

> For every recognized position there is an expectation widely shared by members of the community of what should be the behavior of persons who occupy that position. What a typical occupant of a given position is expected to do constitutes the role associated with that position.[8]

They also define social class:

> In every community people are recognized as differing in status, some being perceived as of superior status and others as of inferior status. In highly developed, complex communities a multiplicity of elaborate

and permanent status systems is found. Within each of these systems persons are rank-ordered in terms of prestige or social worth.[9]

In all of these definitions relative to the group concept, the activity cited is a response of the members or individuals. This points out a fundamental fact regarding groups: they exist only through and because of individuals. In order to analyze any activity characteristic of a certain group--such as its communication patterns--it is necessary to turn to individual members.

This doesn't mean, however, that groups can't function as an entity. Groups can make formal statements which are the result of member consensus. This is a basic organizational principle characteristic of the League of Women Voters, for example. However, most communication, particularly formal communication, is through an individual on behalf of the organization--such as a letter from the president of one group to the chairman of another.

Illustrations.--Geographical identifications are a form of one type of group identification which illustrates the pervasiveness of group divisions in American society. A research study cited in the Public Opinion Quarterly concluded, "Recent developments including the sharp regional division of the vote in the 1964 presidential election and the continuation of bitter interregional disputes over racial issues, suggest that increasing cultural uniformity should not be taken for granted."[10] The study was based on the response to Roper polls by different age groups from different geographical regions. The trend analysis of age groups indicated little change in opinion between generations. The authors emphasized, "Beneath the increasing superficial uniformity there could lie persisting wide or even widening differences in value and belief."[11]

C. E. Osgood, a psychologist, has conducted extensive research into the different value systems of cultures searching for values which could be called common to all. He discovered only three values which characterize most cultures: "evaluative" which is represented by good-bad or honest-dishonest, "potency" which is strong-weak or hard-soft, and "activity" which is active-passive and fast-slow.[12]

As an illustration of differences in values the authors of the book Speech Behavior and Human Interaction make this comment about American concern for time:

> We are probably so accustomed to our observances of time that we are unaware that other cultures do not have the five-day work week and, in fact may not even have what we call a week. Our division of time into years, months, days, hours and minutes makes it convenient for us to show the little idiosyncracies that tell people so much about us.[13]

Social groups may differ because of their economic status or their positions or roles. A study on "Bureaucracy and the Lower Class" by Sjoberg, Brymer and Farris cites the cultural differences between the middle class welfare organizations (including schools and churches) and the lower-class clients.

> Lower class persons relate to one another on a personal manner. Middle class persons relate within an impersonal context. Thus members of the lower-class face a greater gulf when they attempt to communicate with the middle-class bureaucracies who ideally must administer rules according to impersonal norms.[14]

Social distance.--The preceding studies illustrated some of the ways in which social groups may differ. There are other factors which have been investigated including mobility, prestige, attitudes, and opinion. All of these social and psychological factors are manifest in a phenomena known as "social distance." The Dictionary of Sociology defines social distance as:

Reserve or constraint in social interaction between individuals belonging to groups rated as inferior and superior in status. The differences giving rise to social distance may be those of race and nationality, of class, or institutional role. . . .[15]

In other words, social distance is a product of group membership and involves the ranking of individuals or groups in relation to each other.

Muzafer Sherif, a social-psychologist, defines social distance as prejudice. He explains it in more detail as "the standardized scale of social distances at which one group is placed in relation to other groups."[16] Sociologists working in the 1930's investigated social distance in America on the basis of nationality and race to develop this standardized scale. "There is a rather well-established scale of social distance," Sherif reports, "cutting across regional, ethnic, and cultural differences on the whole." He found that at the top of this scale come Americans, Canadians, and English. Then follow the French, Norwegians, and other northern Europeans. Italians, Spanish, and Jews follow in descending order. At the bottom are Negroes, Hindus, Chinese, and Turks.[17]

Recent research has expanded the concept of social distance to other group distinctions in American society. An article in the Public Opinion Quarterly reports the problem of social distance in interviewing. The authors comment that "lower-status Negroes, particularly those with less education, perceive extreme social distance between themselves and the white middle-class."[18] They also encountered a tendency by both interviewer and interviewee to stereotype and explained, "We know that when a group is perceived as being at a great social distance the ability of discriminate subtle differences among members of that group is minimal."[19]

The problem of social distance also was encountered in the "Bureaucracy" study which considered group distinctions based on education, income,

role, and group status. The authors warned:

> Because bureaucratic officials find it difficult to understand the per-
> spective of lower-class clients and because lower-class persons must
> increasingly cope with highly specialized and technically oriented
> systems, the social distance between the bureaucratically skilled members
> of American society and some elements of the lower-class may well be
> increasing rather than decreasing.[20]

To summarize the concept of group, studies have shown that groups are
a basic organizational principle of society. A definition combining the
approaches of different disciplines would be; two or more people with common
bonds of interaction which establishes their collective involvement as an
entity. Membership may be primary which reflects interdependence and face-to-
face contact or secondary which involves membership by choice in a more
formal structure for a stated objective. Some concepts such as social class
and role, cross both categories of groups. The relations between groups are
evident in social distance, a concept based on social and psychological fac-
tors such as values, attitudes and mobility. Another factor affecting social
distance is communication.

Communication

Before discussing communication between groups, it is necessary to
define communication and look at some of the forces affecting it.

Definitions.--Otto N. Larsen, in an article on "Social Affects of Mass
Communications," defined communications as "the process through which a set
of meanings embodied in a message is conveyed in such a way that the meanings
received are equivalent to those which the initiator of the message intended."
He emphasizes that "there must be a transmission of meanings before communi-
cation has taken place."[21]

Larsen is interested in meaning. Other communication researchers are more interested in the process and have developed models to explain what and how communication happens. Klaus Krippendorf in the introduction to a book on content analysis explains such models:

> It may be said that a source <u>encodes</u> some <u>content</u> into a <u>transmittable</u> form--a signal--which is <u>decoded</u> in turn by a receiver. The decoding process then results in some symbol that resembles or <u>represents</u> the content that the source intended to convey.[22]

A graphic model of this process is depicted below:
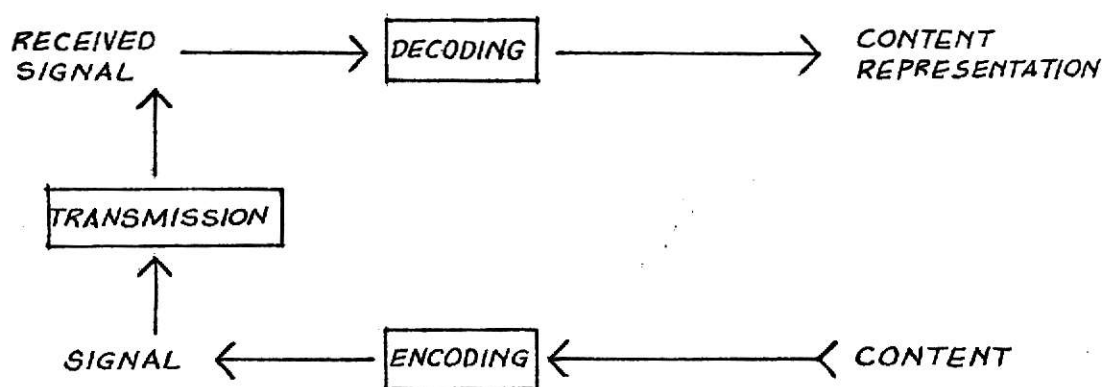
Figure 1. A Communication Model[23]

This is a very simplified approach to process, other researchers added considerations of noise or obstacles, feedback to the source, networks, and channels.

Krech, Crutchfield and Ballachey, the social-psychologists who wrote <u>Individual in Society</u>, define communication also with an emphasis on meaning but add the concept of common background. Their definition of communication is, "The interchange of meanings among people--[communication] occurs mainly through language and is possible to the degree to which individuals have common cognitions, wants, and attitudes."[24]

Common meaning.--This concept of common background appears frequently in definitions of communications by sociologists and social psychologists and, no doubt, is of major significance to a study of intergroup communication. A psychologist discussing "Aphasia as a Linguistic Problem" recognized the need for common terms:

> Whether messages are exchanged or communication proceeds unilaterally from the addresser to the addressee there must be some kind of continguity between the participant of any speech event to assure the transmission of the message. The separation in space, and often in time, between two individuals, the addresser and the addressee, is bridged by an internal relation: there must be a certain equivalence between the symbols used by the addresser and those known and interpreted by the addressee. Without such an equivalence the message is fruitless--even when it reaches the receiver, it does not affect him.[25]

In other words, we need to speak the same language if we want to understand each other.

Fruitless communication can result from symbols or terms which are not common to both the source and the receiver. In Speech Behavior and Human Interaction the authors point out that the terms used and understood by the participants depend upon their past experiences:

> We are interested in signals encoded from the experiences of the communicator as a result of his desire to evoke a particular meaning in the mind of the listener. Many times the resulting signal does not evoke the correct meaning and then we have a breakdown in communication. When this happens one may be able to trace the cause to differences in backgrounds of the two communicants.[26]

It would seem that this type of communication breakdown because of dissimilar backgrounds and terms would be a particular threat to intergroup communications. Dissimilar background is inherent in the situation. Ideally intergroup communication must consider this factor and find some way to overcome possible communication failure because of it.

Meaning.--Several definitions referred to meaning as the end product

of communication. In a previous quote from Speech Behavior and Human Inter-

action, signals were used to "evoke a particular meaning in the mind of the

listener." The author called communication the "transmission of meanings."[27]

Understanding, then, would be the successful transmission of meanings.

An actual definition of meaning from a psychologist's viewpoint has

been developed by Osgood:

> The meaning of 'meaning' . . . is a psychological one--that process or
> state in the behavior of a sign-using organism which is assumed to be a
> necessary consequence of the reception of sign-stimuli and a necessary
> antecedent for the production of sign-responses.[28]

Meaning is achieved as "sign-stimuli" or "symbols" are received. Osgood's

definition doesn't consider whether that which is received is the same as

that which is transmitted. This is in contrast with the concerns of the

authors of Individual in Society. They comment:

> Communication accomplishes its purposes accurately if the message is
> interpreted in the same way by the communicator and by the recipient
> of the communication. . . . This does not mean that the participants
> must agree in their thinking about the object of their communication.[29]

The concept of meaning in a group situation has been discussed by

Osgood in an article "Cognitive Dynamics in the Conduct of Human Affairs"

which appeared in the Public Opinion Quarterly. Osgood explains meanings

which are peculiar to groups:

> The analogue of a cognitive element for an individual is what we may call
> a 'cultural meaning' (stereotype, public image, etc.) for a group.
> Although individuals within groups may be expected to vary in their
> private meanings, it is characteristic of cohesive groups, . . . for
> interpersonal communication to produce increased uniformity of opinion
> and attitudes. . . . Now, to the extent that the cultural meanings of
> two socially significant referents have different evaluative locations,
> increasing proportions of individuals will necessarily experience pres-
> sures toward congruity when these items are forced into interaction by
> assertions in the mass media.[30]

If groups can have meanings and these meanings may reflect the distinctive character of various groups, then this may be another major barrier in intergroup communications. This implies that message or terms could have one meaning for one group and different meanings for another group. For example, a city official may discuss the "needs of citizens" and mean something entirely different than an elderly welfare recipient would mean by "needs of citizens."

Context.--The various elements involved in the context of a message are often considered in a discussion of the concept of meaning. The environment of the communication situation involves the psychological background of the communicants--including attitudes and values, the physical surroundings, and the syntax of the message. The authors of Individual and Society discuss context and message:

> People can and do interpret words in entirely novel ways, depending upon the situation and the present psychological state of the individual. . . . Syntax is basic to the understanding of linguistic meaning, i.e., meaning as related to structure, for it is the syntactical arrangement which determines the meaning of an utterance. . . . The same word may have different meaning for different people and different meaning for the same person at different times.[31]

These social-psychologists emphasize that meanings may shift depending on the context of the communication situation. Obviously there are major contextual shifts in inter-group communication. City planners, for example, may talk to the city council in the municipal council chambers and within the hour visit with a group of militant blacks at a community center.

Another illustration of contextual problems in meaning and understanding is supplied by Jakobson,

> It is not enough to know the code in order to grasp the message. When I say "he did" you may be familiar with the rules of word order and you

will then realize that I speak about some man who performed some action, but in order to learn who this person is and what is the action performed, you need to know the context . . .[32]

Both of these quotes emphasize the linguistic aspects on context. Many behavioral scientists plead for research beyond simply the language of communication. Although this research project will consider linguistic factors, it is recognized that this is only one aspect of the communication situation. Max Black in The Labryrinth of Language is concerned with the total perspective of communication when he comments, "We have arrived at what might be called the principle of context dependence: the words used, however central and important, must be regarded as only a part of the total speech act."[33] Were the tools and the time available, a comprehensive study of intergroup communication would have to consider the problem of psychological distance between the groups.

Language Factors

The language factors involved in communication have been mentioned previously in this discussion of concepts relevant to intergroup communication. Many writers consider language as much a problem as an asset. Black said, "Language is more than a neutral reflection of some independently given 'external world'--more like a distorting mirror than a sheet of unflawed glass."[34]

Symbols.--The distortion of language is generally agreed to be a product of the representational character of words. Words are only symbols. They mean only what they are assigned to mean and their use is a social custom. Like all social customs the use may change or different groups may have different customs regarding the use of the same word. An educator from

Belgium who is interested in the problem of cross-cultural education has written:

> Language is, fundamentally speaking, exactly as much a means, a vehicle of communication between persons as an impediment, an obstacle for communication and for expression alike. The former, because it provides symbols common to individuals; the latter because its limitative arbitrariness tends to turn a symbol system into a strait-jacket for anyone using it.[35]

Dialects.--Another aspect of language which illustrates the strait-jacket character of language is the dialect. Not only the pronunciation of words, but the general use of words even in written language, is a product of group training and orientation. An extreme example of the dialect problem was cited by Seabrook in the book, The Unpriviliged, which related the problems of a dialect-speaking family in England. The book described the effect of the language on generation after generation:

> They were so profoundly imbued with the retrenched vocabulary, the idioms and saying, even the sentence constructions, that anyone who did not share the same speech was immediately recognizable. . . . They could not allow that people adopted another linguistic usage for any other reason than snobbery. . . . Its greatest disadvantage was that it stifled the personality and denied individual expression and made of every aspect of their life a bitter and inescapable subjection.[36]

This is probably an extreme example of communication breakdowns because of language, but similar problems can develop through the use of incorrect and substandard grammer, slang, and obscenity, and jargon.

Vocabulary.--Max Black has enumerated various language factors which hinder communication and has found that many of them are a product of vocabulary. He comments, "language constrains thought most plainly by the scope of what might be called available vocabulary, the stock of words and phrases that will readibly be understood by the hearer or reader."[37]

The problem of word meaning particularly concerns Black who is a semanticist. He identifies one problem as "semantic anemia" or the use of insignificant terms. He explains, "The everyday talk of our times . . . is peppered with words lacking firm meanings or with words having no assignable meaning in context. . . ."[38]

Complexity.--Another type of linguistic problem deals with the complexity of the language both in sentence length and word length. This is the principle behind the various readability analyses used by researchers in mass communications. Robert Gunning, who developed the concept of Fog Count, explains that "there are twenty factors of writing style that have a marked effect upon reading difficulty. But most of these factors can be grouped under two: long sentences and hard words."[39]

Simplicity of writing is a basic journalistic tenet expressed in the admonitions by journalism educators to "write clear" or "write tight." Mass communicators are concerned with reading ease for their audience; they are also concerned with the amount of space it takes to write a story, since space costs money. These two concerns meet compatibly in clear news writing. Gunning explains his concern for complex writing:

> There are two factors of writing style that have the most effect on reading difficulty. They are 1) the words themselves, and 2) the relationship between them. Sentence length is a good measure of the complexity of relationship in a sentence. The reason is simple: the more words, the more relationships, and consequently the more effort for the reader. . . . But poor word-choice is the chief fact in reading difficulty. . . . The chief disease of the language today is fat composed of fuzzy superflous words.[40]

Explanation.--One way to write clear is to use concrete words with specific meanings. In the case that unfamiliar terms are used, or terms with multiple meanings, then the method of writing clearly is to explain. Larsen

says, "Society can exist only because most people's definitions of most
important situations coincide at least approximately most of the time."[41]
His qualifications and hedge-words indicate that there are a lot of times
when definitions don't coincide or a lot of less-than-important situations.
At any rate, intergroup communication is one time when definitions would be
most likely to not coincide.

In a book of readings on Psycholinguistics, Rulon Wells states that
the ideas of Bertrand Russell have not been adequately applied to linguistics.
He makes the comment, "If a popular cliche can be trusted, technical results
need to be 'translated' in order to become available to the laymen."[42] Wells
is asking for explanation of Bertrand Russell's concepts for another very
well-educated group. However, the field of expertise are different, there-
fore definition is needed.

In the same book, another author, Bloomfield, discusses the problem of
double meanings and connotations. He says, "Often enough the speakers of a
language do not distinguish a central and a marginal meaning in cases where
an outsider might see two situationally different values."[43] He cites the
use of the word "day" as an example. The receiver might have difficulty
understanding whether the source meant a 24-hour period and daylight in con-
trast with night.

He also cites problems with connotative words:

> The meaning of a form for any one speaker is nothing more than a result
> of the situations in which he heard this form. If he has not heard it
> very many times, or if he has heard it under very unusual circumstances,
> his use of the form may deviate from the conventional. We combat such
> personal deviations by giving explicit definitions of meaning.[44]

The careless use of words with personal or marginal meanings can be a problem
in intergroup communication. A similar problem is the level of specific

context meant by the source. Black comments, "The difference between a more definite and a less definite utterance can usefully be compared to the differences in focus between two photographs of the same scene."[45] In other words, a communication problem may exist if the city official is talking about the good of the neighborhood--meaning the 25-block subdivision--and the citizen is talking about the hole in the street in front of his house.

Cross-cultural education is an area where communication success rests heavily upon the ability of the communicants to explain themselves. Van Nieuwenhuijze calls this difficulty, "transculturation." He explains that communication must undergo two processes. The subject must be "transferred" from teacher to pupil and then must be "translated from the terms of reference of one culture into those of another."[46] This difficulty is similar to those faced daily by the white, middle-class teachers in Harlem.

Gunning also speaks of the newspaper writers who use technical terms and big words in the hope of "educating" their public. He asks, "But how do you educate? Do you do it by hoping that the reader will go to the dictionary? Or do you educate by making the meaning of the new or hard word more or less clear through the use that is made of it?"[47] Explaining these terms as they are used, is his answer. "The way to educate without befogging is to use the big word with such precision that its meaning becomes clear from context."[48] The recognition that terms need to be explained in context is basic to communication and the successful transfer of meaning.

Intergroup Communication

Adlai Stevenson has commented, "Today there is less communication between groups of men than there was in the roadless world of a thousand years ago."[49] In spite of the physical closeness which is a product of the

modern miracles of transportation and electronics, groups of people still find it difficult to communicate with one another. The divisions, the gaps, the social peculiarities are simply more obvious.

This research project will consider the intergroup communication situation which is an attempt to bridge the differences between groups through various communication media. Intergroup communication contrasts with mass communication which attempts to reach many anonymous individuals or groups of people. The definition of mass communications provided by Larsen is, "The relatively simultaneous exposure of large heterogeneous audiences to symbols transmitted by impersonal means from an organized source for whom audience members are anonymous."[50]

Mass communication, however, does affect intergroup communications in that stories may appear in the media which are significant or offensive to a particular group. For example, information released by the city regarding a proposed urban renewal project which appears as an article in the paper will be of particular significance to residents of the area. Communication methods, other than mass media, are also used in intergroup communication, such as meetings, brochures, newsletters, displays, and interpersonal communication.

Common experience.--Cultural background and geographical location affect the way people communicate, even those who supposedly speak the same language. Paul Ziff in Semantic Analysis says that "It is difficult to separate language and culture areas or to discriminate cultural features without attention to linguistic features."[51] But within the same culture and language areas he can point to the problem of "mutual intelligibility." He explains, "A Yorkshire man and a man from Alabama count as native English

speakers; some such pair would not understand each other."[52] The common

Western culture and English language are not sufficient for understanding in

the face of such group distinctions.

Differences in background are responsible for the different meanings

assigned to words. If the source and receiver have had different experiences,

then the ideas referred to by the words they use may be radically different.

The authors of Individual in Society explain:

> The importance of differences in experience in determining differences in
> the meanings of words becomes of crucial concern when we seek to under-
> stand the nature of communication among people of different cultures of
> even subcultures. Frequently we find that these cultural differences
> create well-nigh insurmountable barriers to communication.[53]

They cite an example from subcultures in American society to show how such

differences can exist:

> The experiences of the various ethnic and social class groups within our
> society are so different that many words have come to have a special
> significance. For example, the word "work" may have quite different
> meanings for members of lower-class and for members of the middle
> class. . . . People from these two classes in discussing the subject of
> "work" may really be talking about different things, although believing
> all the time that they are talking about the same thing.[54]

An article on "Speech and Social Status in America" by Dean S. Ellis

substantiates the concern that differences in background contribute to mis-

understanding:

> It seems obvious that the backgrounds of rich and poor are going to vary
> greatly. It should, therefore, be just as obvious that the meanings the
> rich and poor assign to symbols used by the two groups to express the
> same concepts should be expected to vary greatly.[55]

The recognition that differences in background contribute to misunder-

standings, lead to an obvious concern for common backgrounds. To overcome

this problem in intergroup communication demands methods of developing common

experiences which then lead to common meanings and, hopefully, to understand-

ing. The authors of Individual in Society also recognize this need and

comment:

> Two people can communicate accurately in so far as they have each experienced comparable wants, have each faced comparable problems, and have each arrived at comparable solutions to these problems.[56]

This is a concept more widely recognized as empathy. One of the greatest difficulties in intergroup communication is this problem of projecting oneselve into the other person's experiences. The difficulty was outlined by the authors of the "Bureaucracy" study who make these comments: "The bureaucrat lacks knowledge about the lower-class client's subculture. . . . [the bureaucrat] can't step outside his formalized role. If he takes the role of the client, he winds up challenging his own system--systems tend to penalize members who 'overidentify.'"[57]

In the explanation of communication, the need for "common meanings" was explained. In intergroup communication these common meanings contribute to empathy which enables the source and receiver to identify with one another. The need for empathy was also recognized by Black as "interchangeability" or the need to "take the role of the other." This demands an ability to transcend possible language differences resulting from differences in background. He explains, "Consider the difficulties of communication between different generations of the same culture or between members of radically different cultures. The principle is: I don't really understand what you are saying unless I can imagine saying it myself."[58]

Group languages.--This discussion so far has emphasized the linguistic distinctions between groups and this, in turn, implies that groups have their own language styles. In a book of readings on Psycholinguistics, L. S. Vigotsky makes this observation: "Between persons who live in very close

contact words acquire particular meanings which are understood only by those people."[59] Vigotsky considers geographical location, possibly the neighborhood, as a factor in the development of special-meaning languages. A number of other researchers have investigated group languages and identified factors other than geographical location which mold special meanings.

The primary social grouping concerned with work or occupation may be a factor according to the authors of Individual in Society. They identify "special languages" as a basic communication problem between groups:

> By the term "special language" we mean a language which is employed only by groups of individuals placed in special circumstances. The language of law is a case in point. In the exercise of their profession lawyers employ a language very much removed from that of ordinary speech. Another example can be found in ecclesiastical language.[60]

The same distinction is made by Greenough and Kittredge in Words and Their Ways in English Speech, "Any limited circle having common interests is sure to develop a kind of 'class dialect'--such as that of schoolboys, of university men, of traveling salesmen, of government clerks."[61]

Both of the above quotes deal with social position based on occupation even though Greenough and Kittredge used the term "class." However, social class based on income as well as such other factors as education, occupation, and prestige may also affect language. In Individual and Society, the authors comment, "The lower and upper classes in most societies speak a different language. . . . It may well be that these distinctive social class languages reflect distinctive class differences in ways of thinking."[62]

Another type of social distinction which is apparent in language is education. The well-educated persons in society tend to speak a language which conforms to rules of grammer and pronunciation. The less-educated are less "correct." Mario Pei in What's in a Word, comments:

> The cultivated language is generally more standardized throughout the speaking area than the untutored language. This means that the same word or form will carry the same meaning to all who use it. Uncultivated language is fraught with localisms which are incomprehensible to speakers from other parts of the area. This community of meaning leads to a community of understanding and a better possibility of collaboration. Speakers of local dialects who do not possess a common cultivate language are often as much at a loss to grasp one another's meaning as are speakers of different languages.[63]

The idea of "correct" use of language is strictly a social consideration and since it discriminates between the less educated and the well educated, it serves as a distinction between those groups in society.

The pattern of communication within a group reflects the familiarity which comes from association. This may be another factor which restricts communication between groups. The article by Vigotsky explores the idea of "abbreviated" speech. He says, "If the mutual subject is present in the thoughts of the speakers, understanding may be achieved completely with a very abbreviated speech and very simplified syntax."[64] If "abbreviated" speech is used with non-members, then obvious communication problems would result.

Illustrations.--Several research projects have been conducted which illustrate the problem of intergroup communications. The "Bureaucracy" study cited earlier depicts the problems in understanding between middle-class bureaucrats and their lower-class clients.

Another study analyzing the communication patterns of similar professional groups found communication problems although the groups had a common goal. This was a study by New and May of urban renovators in Boston. The researchers found a "lack of dialogue" between the two groups concerned with physical improvement of a neighborhood--the ward politicians and the planners. A similar gap existed between the groups concerned with the social problems

in the neighborhood--the clergy and the social workers. New and May comment:

> The same faces meet with the same philosophies. But they do not really
> need to convince each other because they are already convinced. The
> various strata certainly attempt to talk to each other, but we wonder
> whether they talk with each other in sympatico, or talk at each other in
> some unhearing manner. Although communication among different segments
> of the urban workers does take place, this discourse goes on at different
> altitudes. Only sensing each other's presence, they never make a full or
> direct contact.[65]

This perception of incompatible philosophies, even among groups with common

purposes, constrains intergroup communication.

Another illustration of the communication problems between groups is

revealed in a book titled, Cross-Cultural Studies. The author discusses the

dimensions of cross-cultural education with students who have a different

cultural background and frequently a different native language. He cites a

problem faced in the classroom when the teacher tries to explain something to

pupils but fears that it didn't make sense--perhaps because it lacks reality

for the students because of their cultural differences. The teacher then

picks an example from the pupil's own background. He may get a negative

reaction from the students even though the example is scientifically, and

factually correct. Why? The pupil feels the teacher is an outsider and

shouldn't try to meddle or can't really know the score. The author comments:

> The teacher who tries to score results "notwithstanding" or "regardless
> of" the complications caused by cultural diversity, or even worse, who
> tries to do so by eliminating this phenomena (e.g., by expecting his
> pupils to adapt themselves completely to his way of life and thinking)
> has misunderstood his duty.[66]

The problems of "transcultural" education are not greatly different from the

problems faced in this country by the great majority of our white, middle-

class teachers who are confronted with a variety of social groups in the

classroom.

City Planners

Professional city planners are a specific group in America faced with the problem of intergroup communication. As professionals they deal horizontally with city managers, city engineers, urban renewal and public housing officials--other professionals in the same field. As professionals they deal vertically with the general lay public--housewives, homeowners, militant groups to the left and right, elderly, poor and a host of other groups. They also tend to be white and middle-class which puts them in different groups from the minority groups as well as the wealthy and the poor.

In an interview with Herbert J. Gans, Psychology Today found that there are differences in viewpoints between the planners and their public. Gans commented, that the public's "idea of the good life has little to do with the things that preoccupy planners--such as good design, orderly land use, lots of public open space, and highly visible land marks."[67] Gans who is both a political scientist and a city planner, explained what the public is concerned about: "such things as work, income, health, family and friends. If they are homeowners they are also concerned about property values and having friendly neighbors with children that can be playmates for their own kids."[68] He analyzed how the public feels about the planners' concern for design, "They also want their communities to be attractive, but their ideas of what is attractive don't often coincide with those of most planners and architects. For instance, most people care little about the skyline and many enjoy the psuedo-colonial housefronts that drive architects up the wall."[69]

Gans' observations on the differences between planners and the public were supported by C. M. Deasy, an architect who tried to find out what the public likes. Deasy was asked by a client to prove that the public would be

attracted to a beautiful plaza proposed for his new building. To meet the challenge the architect "went back to the streets" to interview and observe his public. He reports, "To say that the man on the street was oblivious to design quality isn't enough. He was so superbly oblivious that he could walk in sublime ignorance of the instant death that swayed overhead as huge steel girders were hoisted into place. . . . This same mindless zombie, however, reacted with the speed of a hungry mongoose to the kind of stimuli that he was tuned to: news, food, friends." The architect concluded, "Insensitive as he was to our values, he was very alert about his own."[70]

In addition to differences in group values, there are different communication patterns also. This researcher has experienced a number of communication breakdowns because of linguistic problems. Planner's talk is filled with double-meaning words such as "relocation," "open space," "rehabilitation" and "project execution." It is also burdened with terms earlier described as "semantically anemic" such as "citizen wants and needs," "planning process," and "citizen participation." Furthermore, planners are prone to write academic essays in the guise of general public brochures. The confusion in the eyes of the public after sitting through 3-1/2 hour meetings on an urban renewal proposal or after reading a 16-page description of the same proposal attests to communication problems in general. These problems seem to justify the selection of city planners and their public for a study of linguistic problems in intergroup communication.

Research Questions

The preceding review of linguistic factors involved in intergroup communication suggests that the two factors of complexity and explanation are of major significance. Since research methods are available to analyze

communication for these two factors, this research project will concentrate on just these two. The questions which will guide the development of the research design are:

Are the scores obtained by measuring for complexity and explanation comparable for a set of given messages?

How do the planners' messages compare with magazines measured for complexity and explanation?

Do either or both of these factors predict ease of understanding for the general public?

Are there distances or "gaps" between the levels of understanding of different groups?

CHAPTER II

RESEARCH DESIGN

This research project can be categorized as methodological since it involves a comparison of different methods of analyzing intergroup communication. It is also an exploratory attempt to develop a method of comparing the communication "gaps" between groups. Two of the methods used predict the reading ease of a message by analyzing its content for complexity and explanations. These are Fog Count and In-Group Analysis. Both of these linguistic factors are discussed in the preceding chapter. The third method, Cloze Procedure, tests messages for understanding. These methods will be discussed later in greater detail, however, it was necessary in a methodological study to consider the available methods at this time in order to develop the hypotheses.

Hypotheses

The hypotheses which guided this study of inter-group communication are as follows:

1. A message which is highly complex with a number of unexplained terms will be more difficult to understand than a message with well-defined terms and a simple style.

2. A message which is highly complex with few unexplained terms will be generally as difficult to understand as the message which is high in both.

3. A message which has a large number of unexplained terms but a simple style will be generally as difficult to understand as the message which is high in both.

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4. The professional planners will have greater understanding of the
   student planners messages than will the lay citizens.

5. The groups with higher educational level will have greater under-
   standing of the planners messages than will the groups with lower
   educational levels.

The idea behind the first three hypotheses is that there will be a
great distance between the levels of understanding of the two extreme
messages--the message with high scores on both factors and the message with
low scores. The question is: what happens to the other two types of mes-
sages? This researcher is hypothesizing that when they are tested for under-
standing scores will reflect almost as much difficulty as the message with
high scores. The reason is: neither well-defined terms nor simplicity in
reading style can compensate for each other. Messages which are high in
either one will still be difficult to understand.

The last two hypotheses explore the idea of communication "gaps." The
scores which suggest level of understanding should reflect the social role
and educational proximity of the groups. In other words the distance between
the professional-lay and higher-lower educated groups should be obvious in
the comparitive positions of their scores.

Research Methods

Research methods can be applied to an intergroup communication situa-
tion through interpersonal experimental designs or through content analysis
of written messages. Since this research is primarily concerned with written
communication, the first major decision is to develop a research project
within the area of content analysis.

The authors of Content Analysis of Communication define content analy-
sis as a "systematic technique for analyzing message content and message

handling--it is a tool for observing and analyzing the overt communication behavior of selected communicators."[71] Content analysis, however, has many different forms. A quantitative approach as described by Alexander George is an attempt to determine significance by the number of times reference is made to a particular topic. The "manifest meaning" is based on the "most frequent use" factor. He compares this type of content analysis with "intended meaning" analysis which draws inferences from specific uses within the situational and behavioral context.[72] This method is frequently employed in propoganda analysis.

Readibility methods.--Within the field of content analysis falls a particular type of data-gathering procedure known as "readibility." Several different methods have been developed by Gunning, Flesch, Dale-Chall and others to measure ease of reading. These methods concentrate on syntax with emphasis on such factors as word length and sentence structure. Since only one of this type of analytical method is needed here, the Gunning method will be used in this study. In addition, the researcher is experienced with the application procedure of the method. This technique counts the number of polysyllable words and the average sentence length in a message and then computes a "Fog Index" based on the sum of these two figures multiplied by 0.4. The "Fog Index" scores have been correlated with educational levels by grade and with reading ease levels of various magazines.[73]

The author of this report has recently developed a new type of readibility test which analyzes communication for the use of "In-Group" terms and their explanations. This method was developed specifically for intergroup communication situations. In-Group Analysis attempts to deal with one common criticism of readibility formulas: a message may consist of short words and

short sentences and still be confusing because of semantics--the terms used. In-Group Analysis identifies terms which have special meanings for particular groups in messages which are intended for other groups. The terms are recognized by trained coders as being either Technical, Special Meaning, or Tip-Toe. The explanatory effort is then categorized as either a Definition, Inferred Definition, Illustration, Figurative, or Explanation. The score is computed according to a point system.[74] (For a detailed explanation of this method, refer to page 71 in the Appendix.)

A third readibility method, the "Cloze Procedure," tests understanding. Cloze is concerned with shared or common meanings. C. E. Osgood, a psychologist, describes this as "commonality of language." He describes the psychological theory behind the procedure: "To the degree that the complex language systems of source and receiver correspond, one should be able to substitute for the other, that is complete their messages."[75] Wilson Taylor, who developed "Cloze" Procedure, explains that it measures "the extent of likeness between the language patterns used by the writer to express what he meant and those possibly different patterns which represent reader's guesses at what they think the writer meant."[76] "Cloze" depends upon the ability of observors to fill in messages which are incomplete. The method is to obtain messages from a source, delete certain words (based on a regular pattern such as every fifth word), and give to a receiver to fill in. The greater the completion success, the higher the score and the higher the level of understanding. The application of "Cloze" to intergroup communication has been suggested, although such a study apparently has not been recorded elsewhere. At the Allerton House Conference in 1955 which is reported in Pool's book, Trends in Content Analysis, Joseph B. Casagrande made this suggestion

regarding "Cloze":

> Could we get a measure of cultural or social compatibility with this technique? For example, might it not be likely that messages produced by members of the elite, say could be filled in quite well by professionals, less well by artisans, and least well by unskilled laborers? This might even provide a more fruitful index of social distance.[77]

This research project won't develop such an index, however, it will apply "Cloze" to selected measures for a limited number of receiver groups. The factor of social distance may be apparent in the results obtained from this limited research.

Sample

The sample of messages was obtained from students in a City Planning I Lab class. The written message resulted from a take-home final examination given by the instructor. The students were asked to answer a question as if they were writing for a general audience in a "question and answer" brochure. The question was: "Why do we need citizen participation in the planning process?" (see Appendix, p. 69) The message was taken from the first 100-words which is the message length recommended by Gunning for Fog Count. Of the 24 American students enrolled in the class, only six were actually planning students. (A number of the planners were foreign students, however they were eliminated from the sample because their language problem was a variable which would influence the findings.)

In-Group Analysis and Fog Count were applied to the written messages of all the students. Since the "Cloze" Procedure involved submitting a selected message to an audience, in order to obtain either a range or average score, it was not possible to apply Cloze to all the students' messages. This is a second reason for picking the high-high, low-low, low-high, and high-low scores based on their Fog and In-Group Analyses. Since four of the

city planning students' scores fell within this pattern, the "Cloze" sample was taken exclusively from their ranks. (see Appendix, p. 96)

Limitations of Method

The scope of the study was limited to one intergroup communication situation--the written messages prepared by city planners for their general public. The findings of this sample can not be considered as typical of all intergroup situations, as typical of the work of all city planners or even as typical of that particular planner. It simply compares the results of three different readibility methods applied to this one intergroup situation. Hopefully the results of the study will indicate the relationship of certain factors, such as word and sentence length and explanation of terms and provide a method for either formal or informal self-analysis by a source who must face the problems of intergroup communication.

The scope also is limited in that the project only deals with the two linguistic factors of complexity and explanations. Other factors within the area of sentence construction, grammer, and word usage may be equally as important. However, this is a comparison of research methods and the methods available consider these specific factors.

In this age of the total speech act, the limitations of the scope of this study are even more apparent. The study does not consider environmental factors such as temperature, attitudinal factors such as prejudice either against the topic or the source, linguistic restrictions built in to the language itself, or grammatical correctness. All of these factors could significantly influence the success or comprehension of inter-group communication. These factors are not included because of the need to limit the research to a manageable project.

The two factors tested by the readability formulas are assumed to be of major significance in written communication. A comparison of the scores obtained from the formulas with the "Cloze" scores for understanding, should either support or refute that assumption.

CHAPTER III

FINDINGS

Reading Ease Formula: Comparisons

The first step in the research design involved the application of the two readibility formulas, In-Group Analysis and Fog Count, to the student planners' messages. By way of review, both of these methods provide scores by which a researcher should be able to predict reading ease of a sample message. In-Group Analysis considers the number of In-Group terms used and the way they are explained. Fog Count considers the length of sentences and words. A high score suggests that the message would be difficult to read. A low score suggests it would be easy.

Student scores.--The scores which resulted from the application of the two formulas are given in Plate I. The Fog Count scores range from 7 to 19. The In-Group scores range from 7 to 32. Obviously the In-Group range is higher than the Fog. Within these two ranges, the median for Fog is 13; the median for In-Group is 20. As would be expected, since *the range is greater;* the median for In-Group is higher. The position of the scores relative to the median is interesting. Of the total students in the class, 45% were above the median Fog score and 83% were above the median In-Group. The range begins at exactly the same point; however the In-Group range not only extends higher, but 80% of the students are above the median. This would suggest that the students' scores were generally higher by In-Group. In other words,

EXPLANATION OF PLATE I

Student Fog and In-Group Scores

PLATE I

IN-GROUP SCORES

FOG SCORES
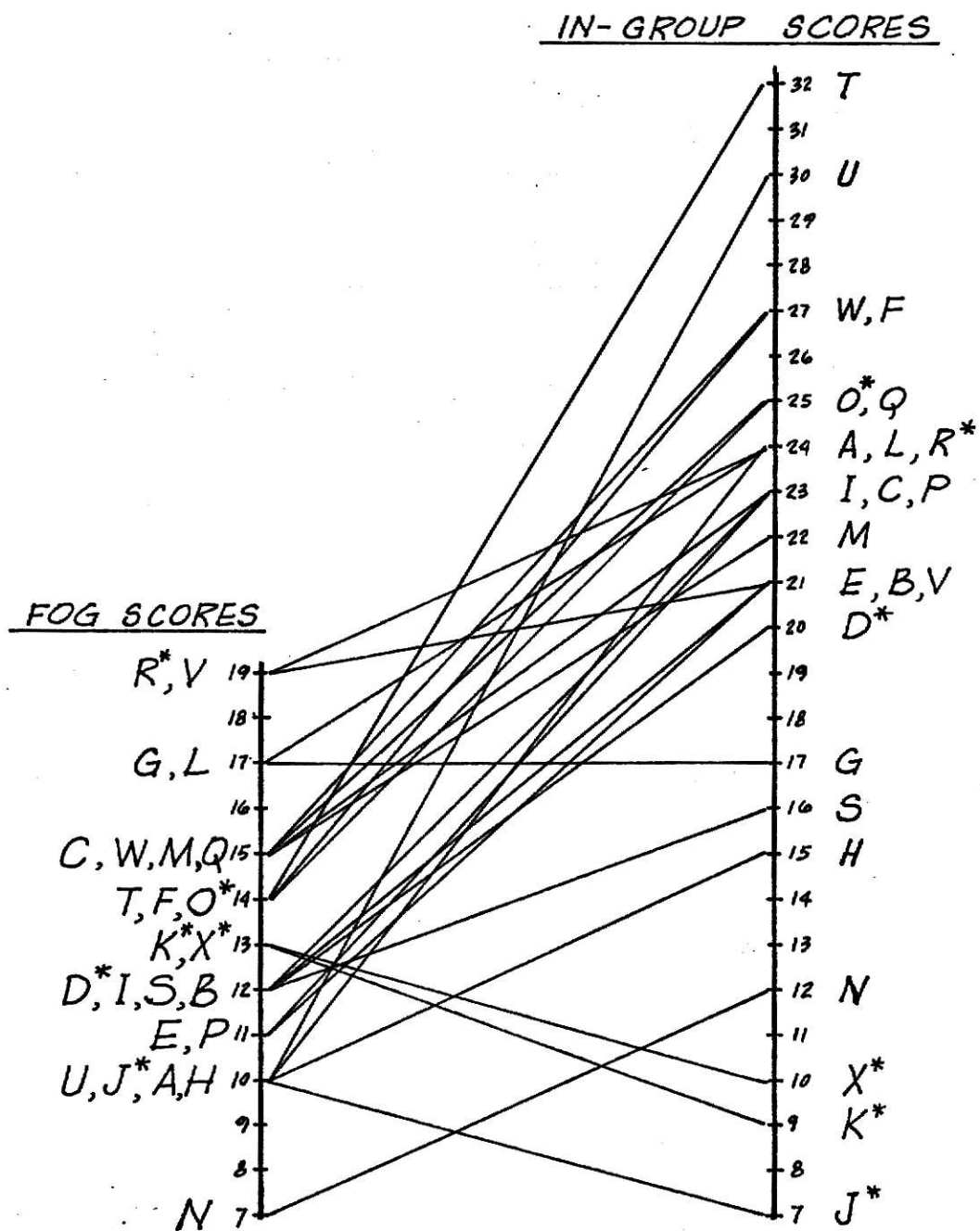
* STUDENT PLANNERS

the scores suggest that their messages should be difficult to read because of their use of In-Group terms without adequate explanation.

A comparison of the students' individual scores generally indicates little agreement between the In-Group and Fog scores. Only 12% of the students had scores that were essentially the same. As would be expected, since the overall pattern of scores were higher for In-Group, only 12% had lower In-Group scores. All of the other students had higher In-Group scores. Thirty-three per cent had very divergent scores (a difference greater than ten points). One other observation: all three of the students whose scores were essentially the same were the highest scores on Fog. Their position within the rank changed from the high Fog scores to middle In-Group.

The significant inference from this comparison of individual scores is based on the divergent pattern which developed. This suggests that the two factors of complexity and explanation are not interdependent. In fact, it is possible to be high in one factor and low in the other.

Students and magazines.--In order to develop perspective on the range of scores, the students' messages were compared with the magazines analyzed in the Pilot Study. Plate II contains the Fog Counts for both students and magazines. Plate III contains the In-Group scores. The magazine scores used are averages based on four articles from different issues.

In Plate II the range of scores is generally the same for both students and magazines. The high score on both is 19. The students had a lower score with 7 than the magazines with 9. By Fog Count, 33% of the students were writing on or above the complexity level of Time.

In Plate III, however, the range is much wider with students both below and above the magazine range. Twelve per cent of the students were

EXPLANATION OF PLATE II

Fog Count: Students and Magazines

PLATE II

STUDENTS		MAGAZINES	
	20	20	
R,*V	19	19	ATLANTIC A.I.A. JOURNAL
	18	18	
G, L	17	17	NEW REPUBLIC
	16	16	READER'S DIGEST
C,W,M,Q	15	15	
T,F,O*	14	14	TIME
K*X*	13	13	
D*I,S,B	12	12	
E,P	11	11	FAMILY CIRCLE
U,J*A,H	10	10	BOY'S LIFE
	9	9	HIGHLIGHTS
	8	8	
N	7	7	
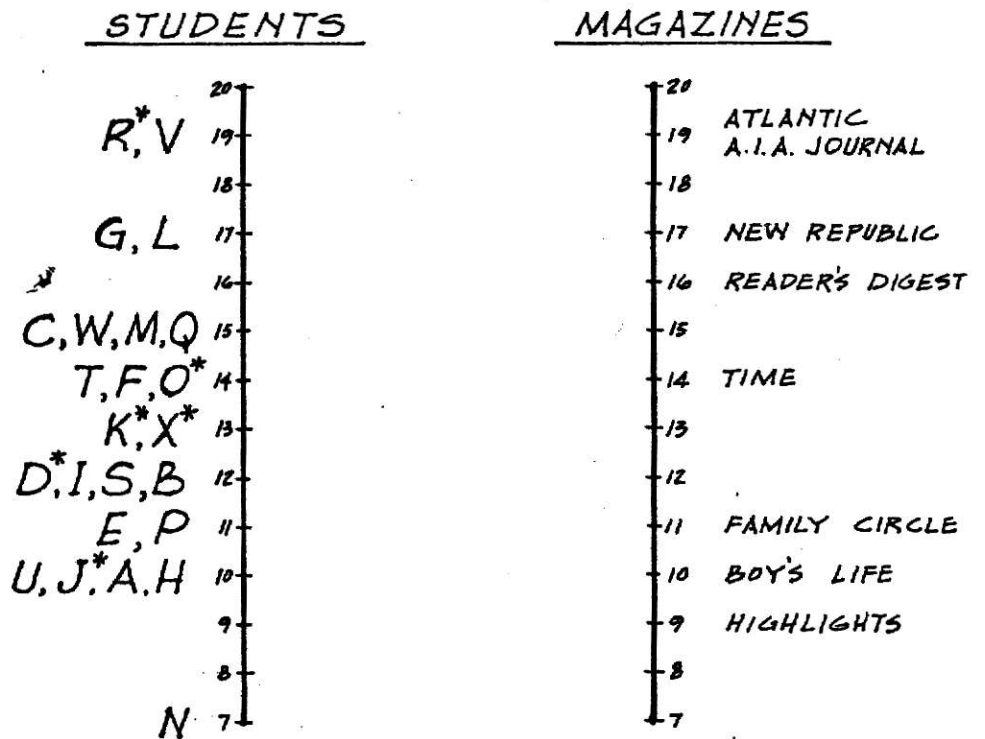
* STUDENT PLANNERS

EXPLANATION OF PLATE III

In-Group Scores: Students and Magazines

PLATE III

STUDENTS

```
32  T
31
30  U
29
28
27  W, F
26
25  O*, Q
24  A, L, R*
23  I, C, P
22  M
21  E, B, V
20  D*
```

MAGAZINE   AVERAGES

```
                           21
                           20
A.I.A. JOURNAL      19          19
                    18          18
NEW REPUBLIC        17          17  G
                    16          16  S
ATLANTIC  }                     
FAMILY CIRCLE }     15          15  H
READER'S DIGEST     14          14
TIME                13          13
BOY'S LIFE }        12          12  N
HIGHLIGHTS }        
                    11          11
                    10          10  X*
                    9           9   K*
                    8           8
                    7           7   J*
```
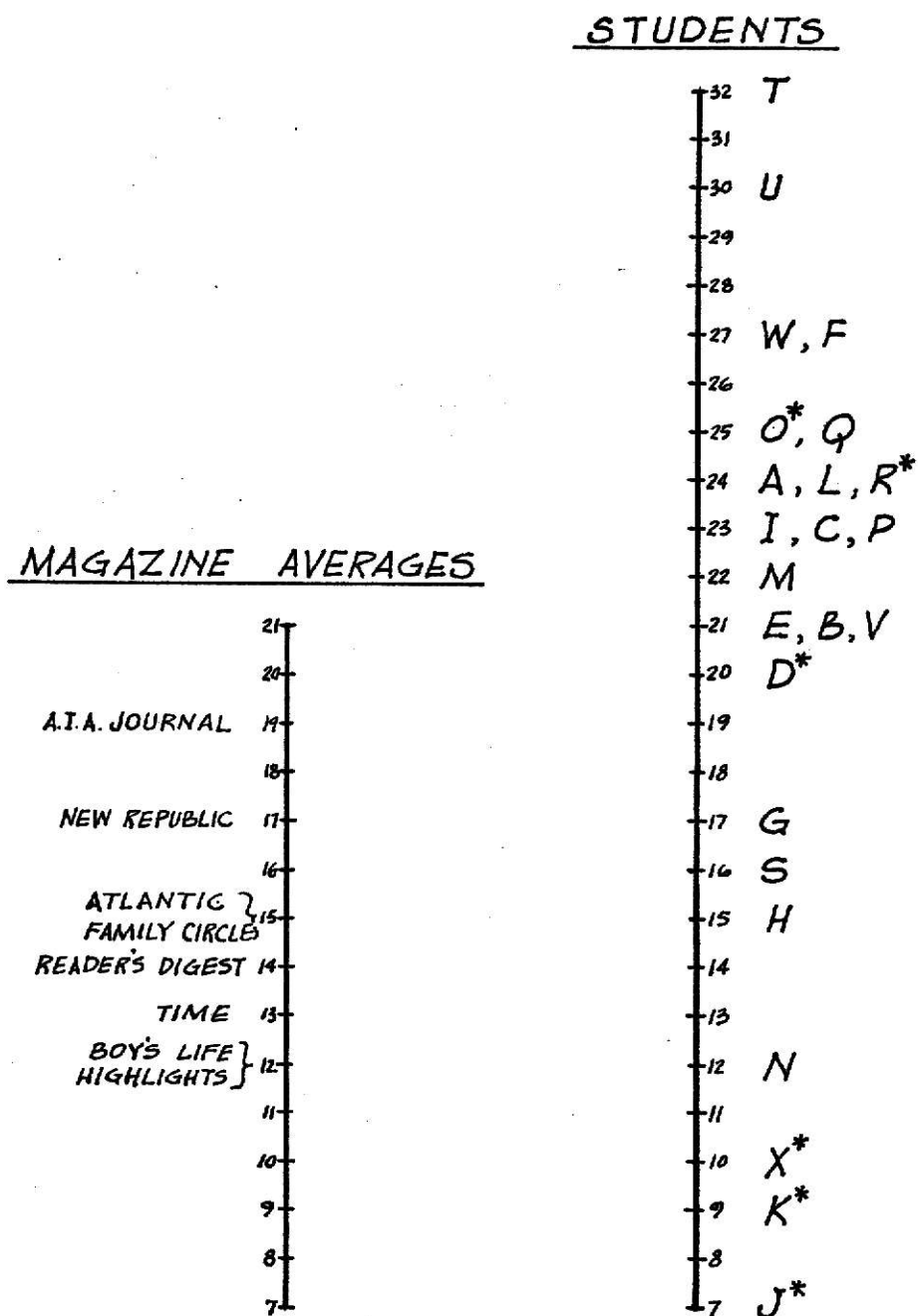
* STUDENT PLANNERS

explaining themselves better than Highlights and Boys' Life. Only four of the students were within the same range as the magazines. The remaining 70% were above the level of even their professional technical journal.

Once again, the students' scores seem to be high in unexplained terms. The fact that a few of them did receive scores even lower than the children's magazines, suggests that the testing instrument is probably not biased against planners and their terms. However, many of the students apparently are not doing an effective job of explaining the In-Group terms they use.

"Cloze" Procedure Comparisons

Sample.--In order to apply Cloze, it was necessary to select a smaller number of messages. Since one of the research questions asked if the In-Group and Fog scores were comparable, it seemed logical to select messages that were high in one factor and low in another. In order to have a standard by which to evaluate these two messages, it also seemed logical to pick messages which were either high in both or low in both.

Earlier in the study, it was discovered that only six of the students were actually city planning students. Limiting the sample to just planning students was one way to reduce the size, if the planners appeared to follow the general pattern of rank. By referring to Plate I, it can be seen that the planners did seem to disperse throughout the class and not bunch up at any particular point on either scale. Therefore the high-low approach was applied to these students. An explanation of this formula is shown in Figure 2.

Selection of messages for the "Cloze" test was based on the application of this formula to the scores of the six planners. Plate IV shows the pattern of scores for the six planners. The high and low scores were obvious; both of

EXPLANATION OF PLATE IV

Student Planners' High-Low Pattern

PLATE IV

IN-GROUP SCORES

FOG SCORES
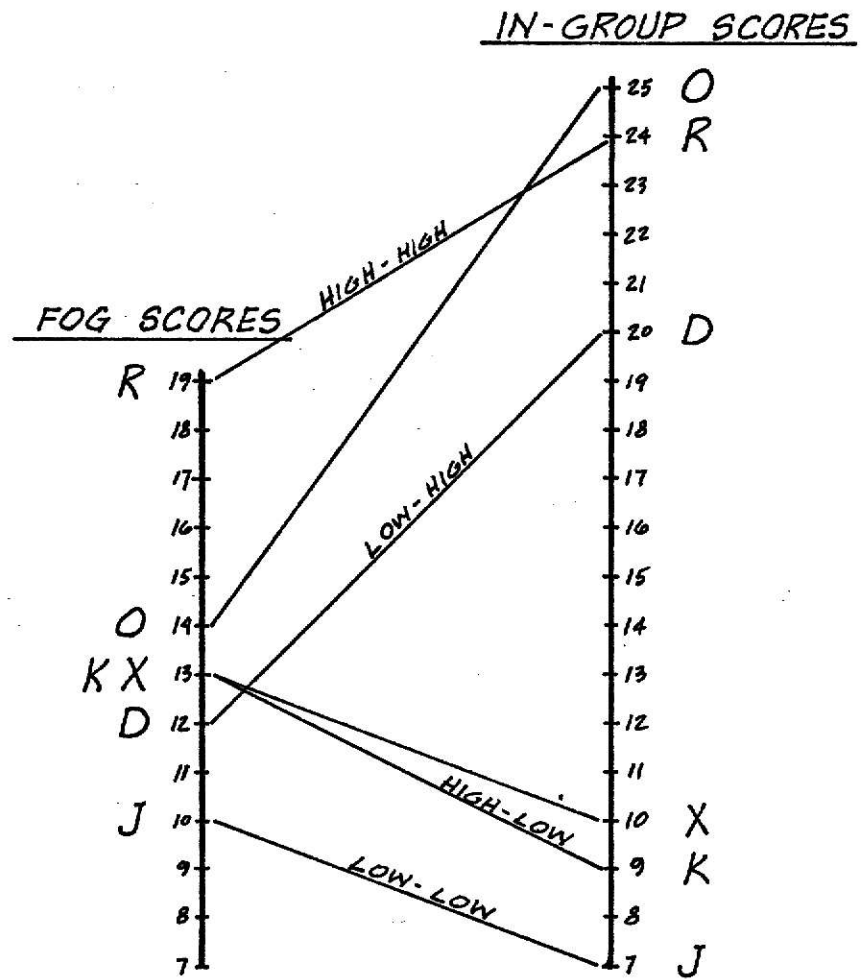
the cross-scale scores were a little more difficult to select. Student D was picked for the Low-High rather than Student O because he was in the lower half on Fog and the upper half on In-Group. Student O was also in the upper half on In-Group, but his Fog score was second highest which, obviously, was too high to call low. The high-low score was also a little difficult to select, mainly because of the pattern of high In-Group scores for the class as a whole. As would be expected, it was difficult to find a score that was high in Fog and low in In-Group. The closest, both for the planners and the entire class, was Student K's score which was more of a middle-low.

Fog	In-Group	General Description
high	high	long words, long sentences, and large number of unexplained terms
high	low	long words, long sentences and either few In-G terms or well-defined terms
low	high	short words, short sentences and unexplained terms
low	low	short words, short sentences and either few In-G terms or well-defined terms

Figure 2. Description of high-low scores.

Application.--These four "Cloze" messages were then reproduced with 25 blanks and given to four different groups, representing different levels of civic involvement, economic status in the community, and education. (see Appendix for sample messages, p. 97) The five professors in the city planning department completed all four messages each. The receivers in the other three groups completed two messages each. These groups included: eight mothers whose children qualified economically for enrollment in the Head

Start program; eleven Head Start workers including teachers, board members, and interested citizens; and twenty college students from an introductory journalism survey class. This gave a total of ninety-eight responses or approximately twenty-four responses per message.

These groups were carefully selected with the idea of developing a microcosmic "general public." The Head Start mothers were generally low-income, minority-members with limited education. The students were assumed to be freshmen and sophomores or generally equivalent to the high-school graduate, middle-class population or the "average citizen" in a community. The Head Start workers represented the "involved" upper middle-class with college degrees and an interest in community problems. The professors represented the professionals in the planning field. The entire educational range was from ten years completed to twenty.

Results.--The following Table gives the average percent of completion for each message based on the scores of all the groups:

LL (easy)	HL (hard by Fog)	LH (hard by In-Group)	HH (hard)
60%	57%	50%	52%

Figure 3. Cloze completion averages.

These percentages were computed by totaling all the scores for each message and dividing by the number of responses. The message which was predicted to be easiest to understand based on Fog and In-Group scores received the highest percent of completions with 60%. However, the message which was predicted to be hard to understand, came in next to the hardest with 52%. This, however, supports the first hypothesis, which stated that the message

predicted to be difficult by both readibility methods would be harder to understand than the message predicted to be easy. A rather large jump appears between the two cross-scores, the low-high and high-low. The message which was easy by In-Group and difficult by Fog came in with 57%. The message which was easy by Fog, and difficult by In-Group appeared to be the hardest of the four to understand according to the "Cloze" scores. In both of these cross-score comparisons, the Cloze test followed the In-Group score rather than the Fog Count. These findings did not support hypothesis 2 which stated that the message with a high fog count would be as hard to complete as the message which was predicted to be difficult by both. The findings did support hypothesis 3 which stated the message with a high In-Group score would be as difficult to complete as the message which was high in both. As a matter of fact, this message was even harder to complete.

Group Comparisons

Roles.--The pattern of average scores for the groups provides points for comparison. The scores are illustrated below:

Message	Students	Head Start Mothers	Head Start Workers	Professionals
LL (easy)	67	46	72	60
LH (easy by Fog)	56	42	50	62
HL (easy by In-G)	56	51	71	61
HH (hard)	56	35	30	58
Total Averages	59%	44%	56%	60%

Figure 4. Cloze completion by roles.

As would be expected the professional planners scored considerably higher than the Head Start mothers. The surprising relationship is among the professors, and students who had almost identical scores. The messages were as understandable for the students as they were for the professional planners. This only slightly supports hypotheses 4 which stated the professional planners would be better able to understand the messages than the non-planning groups. However it did illustrate a great distance between the planners and the Head Start mothers.

Education.--The Cloze scores can similarly be compared by educational level. The categories and their approximate level of accomplishment are: below 11 years (some high school), 12 years (high school graduate), 13-15 (some college), 16 (college graduate), 17-20 (some graduate school). The following chart contains the average Cloze scores by this breakdown:

Message	10-11	12	13-15	16	17-20
LL (easy)	30	46	63	62	58
LH (easy by Fog)	36	52	50	56	58
HL (easy by In-G)	34	44	59	64	62
HH (hard)	34	48	63	48	59
Total Averages	34%	48%	59%	58%	59%

Figure 5. Cloze completion by educational level.

The "Gap" is even greater based on educational group than it is on social group according to the summary in Plate V. Both groups with either some college or some graduate school were at a great distance from the group which had some high school. The "11 years and below" category had a greater

EXPLANATION OF PLATE V

Average Cloze Scores

PLATE V

% COMPLETE	MESSAGES	ROLES	EDUCATION	% COMPLE
60 —	● LL (EASY)	● PROFESSORS		— 60
		● UNDERCLASSMEN	● 13-15 YRS., 17-20 YRS.	
	● HL (EASY BY IN-GROUP)		● 16 YRS.	
		● HEADSTART WORKERS		
55 —				— 55
	● HH (HARD)			
50 —	● LH (EASY BY FOG)			— 50
			● 12 YRS.	
45 —				— 45
		● HEADSTART MOTHERS		
40 —				— 40
35 —				— 35
			● 11 YRS. & BELOW	
30 —				— 30
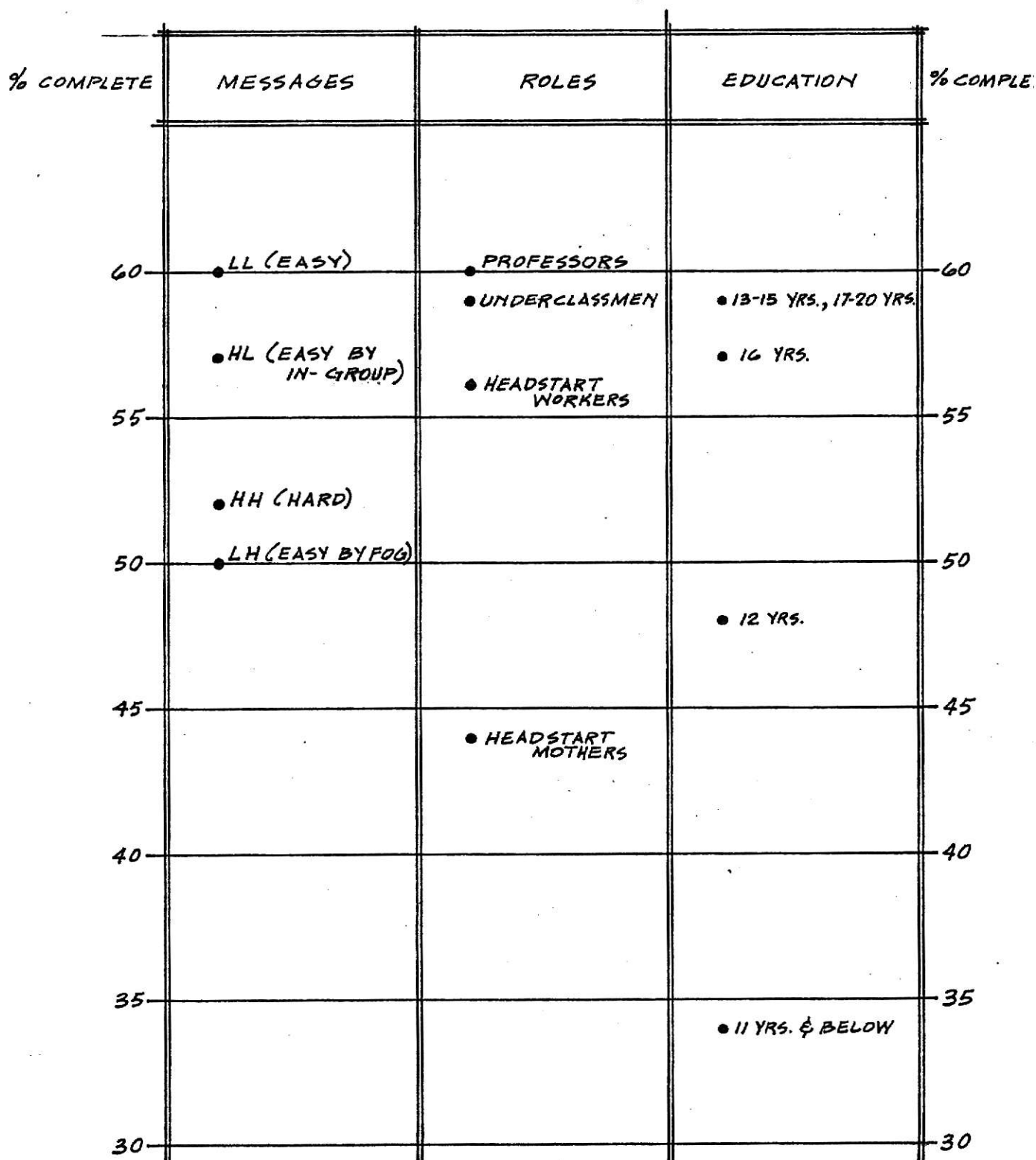
difficulty than all the other groups completing the blanks. This supported hypothesis 5 which stated the higher the education, the greater the ability to complete the messages.

Summary of Hypotheses

This research project compared two linguistic factors which affect intergroup communication: simplicity of style and explanatory effort. A methodological study of three readibility methods provided scores by which these two factors could be compared with level of understanding. The level of understanding scores provided relationships which permitted an exploratory study of distances between groups. The findings are as follows:

Hypothesis #1.--A message which is high in both complexity and unexplained terms will be more difficult to understand than a message which is low in both.

Hypothesis #1 was supported by the findings of the study. The message which was identified as difficult by both Fog Count and In-Group Analysis received 52% completion by Cloze. In contrast, the message identified as easy to understand by both methods received 60% completion by Cloze. Based on the assumption that the successful completion of the blanks through Cloze Procedure indicates level of understanding, the conclusion of this study is that a message which is high in complexity and unexplained terms is more difficult to understand than a message which is low in both factors.

Hypothesis #2.--A message which is high in complexity and low in unexplained terms will be as difficult to understand as the message which is high in both.

Hypothesis #2 was not supported by the findings of this study. The message which had a high Fog count and a low In-Group score was almost as easy to understand as the message that was low in both. However, it is

recognized that the Fog Count for this particular message was more of a medium than a high score which would help raise the level of understanding score. Because of this factor, it is not possible to infer positively that the high level of understanding reflected the In-Group score which predicted ease of understanding, although this was certainly indicated.

Hypothesis #3.--A message which is high in unexplained terms and low in complexity will be approximately as difficult to understand as the message which is high in both.

Hypothesis #3 was supported by the findings of this study. As a matter of fact, this message was more difficult to understand than the message identified by both methods as difficult. According to the Fog Count by itself, this message should have been easy to understand. However, the test of understanding corroborated the In-Group prediction of difficulty. In the case of both Hypothesis #2 and #3, the Cloze scores tended to support the prediction made by In-Group Analysis rather than by Fog Count.

Hypothesis #4.--The professional planners will have greater understanding of the student planners' messages than will the lay citizens.

Hypothesis #4 was only slightly supported by the findings of this study. True, the professors, representing professional planners, completed 60% of the blanks for the highest average score. However, the students completed 59% and the Head Start workers completed 56% of the blanks. The Head Start mothers were the only group within the "general public" whose scores were at a distance from the planners. They only completed 44% of the blanks. In this respect, the social distance between the professors and the Head Start mothers can be inferred from the distance between their two scores.

Hypothesis #5.--The groups with higher educational levels will have greater understanding of the planners messages than will the groups with lower educational levels.

Hypothesis #5 was supported by the findings of this study. The three categories representing college education were all able to complete approximately the same percentage of the blanks, 58-59%. The greatest distance between any of the groups considered in this study, appears between the Cloze scores of the college level groups and those scores received by the group which hadn't completed high school. The distance was from 34% completed to 59%. The group with 12 years of education, which is assumed to be equivalent to a high school diploma, was halfway in between the other groups with a score of 48% completed.

CHAPTER IV

CONCLUSIONS AND IMPLICATIONS

Conclusions

The first three hypotheses dealt with a methodological comparison of two research methods which predict ease in understanding and one method which tested ease in understanding. The hypotheses suggested that high scores by either or both predictive methods would indicate that the messages were equally as difficult to understand. In other words, a simple style could not compensate for unexplained terms and, likewise, well-explained terms could not compensate for complex style. The findings did not support this. The messages predicted to be difficult by In-Group received less completion by Cloze than did those predicted to be difficult by Fog. In other words, In-Group terms without adequate definition may be more of a barrier to understanding in an intergroup situation than complex style. The level of understanding by Cloze tended to follow the prediction made by In-Group rather than Fog Count.

A comparison of the scores of the planning students by all three methods indicated that they were writing for a well-educated audience. On the complexity scale, which would be Fog Count, 33% of the students were writing above the level of _Time_. However, based on the explanatory scale, or In-Group Analysis, 83% of the students were writing above the level of _Time_. As a matter of fact, on this same scale, 70% were above even the level of the AIA Journal. It would appear that the students are writing for a relatively

well-educated audience and assuming a great deal of planning knowledge by
their audience. It would also appear that of the two linguistic factors,
city planning students have more difficulty explaining themselves than using
simple sentences.

The methodological comparison indicated that explanation was probably
more important for understanding in an intergroup situation. The analysis of
the planning students scores indicate their greatest problem (of the two fac-
tors measured) lies in explanation. This would indicate that city planning
students probably face a serious communication problem because of their use
of In-Group terms without explanation.

Limitations and Further Research

One major limitation of these conclusions is the lack of an index of
"understandibility." This study was restricted to comparing the relative
success of the receivers in completing the blanks for four messages. At this
point there is no way to indicate whether the receivers were very successful
or very unsuccessful. In other words, it is impossible to say how well the
planners' messages were understood by the various groups. This study is not
able to conclude that the planners' messages were very difficult to under-
stand for the public, very easy, or somewhere in between.

An attempt was made by this researcher to develop some point of refer-
ence levels of understanding by subjecting sample magazine articles used in
the pilot study to Cloze. Because of the necessity to develop an "average"
score for the magazine, the effort appeared to involve more time than this
entire study. Therefore, the idea was dropped.

Another limitation of this study is the size and restriction of the
sample. The study explores one situation within the area of intergroup

communication. A broad application of this methodology to many groups might provide a new method for evaluating social distance--or at least "communication distance" between groups. Certainly a comparison needs to be made between professional city planners and student planners.

This study also is unable to make a significant comparison of In-Group Analysis and Fog Count based on a large sample and a number of situations. The findings suggest that in intergroup communication situations, possibly In-Group Analysis is a more effective or reliable method of evaluating readibility. A major statistical study could compare the two methods to further investigate the relationship between the two factors of complexity of style and explanatory effort. Perhaps level of understanding in Inter-group communication could be better predicted by a combination of both methods.

The final limitation of these conclusions is that the study did not investigate the difference between intergroup and intragroup communication. Further research could investigate whether simplicity of style and explanatory efforts are of equal importance in both intergroup and intragroup situations.

Implications

The results of the study indicate that communication research methods can be of value when applied to intergroup situations--such as city planners and their publics. These methods could be used both with hindsight--to find out what might have gone wrong after disaster hits and the bond issue is voted down or the public hearing turns into a public brawl. More significantly, such techniques could be used with foresight to predict where communication troubles might develop. If research time and money is limited, then a planning agency could identify some problems by applying any one of the

methods employed in the study. In-Group Analysis might be the most valuable tool, assuming that explanation is a bigger problem than complexity of style when considering written communication. If a planning agency were seriously concerned with communication, then a battery of these tests could be applied by trained communication specialists to develop comprehensive communication profiles of the staff and the agency. Certainly attitude surveys also ought to be included.

What this is suggesting is the development of communication consult-ants similar to personnel and management consultants who could identify staff communication assets and liabilities and who are familiar enough with city planning to provide local public opinion analysis. It might be possible to actually chart the distance between the planning staff and the other various groups in the city by these methods to develop an "early warning system" for communication breakdown.

The findings of this project also lead directly into a discussion of "city planner talk"--the language of the profession. The abundance of In-Group terms and unexplained concepts evident in the students' scores needs to be tested against professional planners. If the range of scores are similar, as this researcher would hypothesize from past experience in urban renewal work, then the question arises: Is the language a reflection of the profes-sion itself? Could the vague terms be a reflection of planners' concern for generalities rather than specifics--for transportation plans and roadway sys-tems rather than particular streets or highways which cut through particular neighborhoods? Do they avoid defining their terms because they can't define their concerns? In other words, what is a "declining neighborhood?" Do planners talk in a code which is only understood by others in the field? Is

this their badge of unity, the "universal sameness" which identifies them with one another, and their mark of distinction from other groups? Is talking in code a method of exhibiting professional status?

Another question which is even a little more blunt: Do planners really want to communicate? Are they interested in an "exchange of ideas" which implies give and take, perhaps even compromise with "The Plan?" Are the abstract and undefined phrases a method of avoiding an exchange of ideas since the public is seldom interested in abstractions? Are planners trying to bore their publics into unquestioning compliance with zoning ordinance revisions and S & P applications.

Another question is probably in order: Is it even possible to communicate about planning to the general public. This study doesn't attempt to answer that question, but it does provide some areas for experimentation. For example, explain your terms! There's nothing new or earthshaking about that--but it should be a very significant aspect of intergroup communication. Planners might gain insight into this problem if they would develop a questionnaire for the man-on-the-street. They might be surprised at how many of their terms and concepts can't be defined or explained by the public.

Probably a major step forward in community communication would be to throw away the concept of "general public." Planners' audiences are made up of specific groups and beyond that each group is made up of individuals. The closer planners can get to the individual, the greater the success potential of their communication efforts.

Another major concern of this research project was complexity of style and this is a problem that touches on the structure of American education. Awkward and unmanageable sentences are certainly not limited to planners

alone. All high school and undergraduate college students ought to have the opportunity to take communication courses--either along with or instead of the traditional English, written composition and speech courses which are now available. These courses ought to confront students with the fact that communication can fail, and that genuine understanding is very rarely accomplished. Students ought to have an opportunity to run a Fog Count on their own writing.

This concern for communication can be carried into planning education, also. Communication is a skill which is developed only by use and experimentation. Every course in the planning curriculum can have a role in developing that skill. Instead of the traditional 20-page paper, which is usually evaluated on the basis of poundage, most research could culminate in a presentation--possibly a class public hearing, a press release, a display or perhaps a slide show. Role-playing and situation analysis could be used effectively in classes to encourage communication. A student who might shrink from a formal presentation of a research report, can respond as a member of the city commission to another member who is expressing the feelings of a Bircher. This would help develop that feeling of empathy, or common background which is so essential to communication.

Possibly specific courses in community dialogue could provide students with face-to-face feedback. Such courses could explore communication theory, apply some of these readibility tests, and experiment with polls and public opinion analysis. Dialogue situations could be structured to bring the students face-to-face with their public. Every neighborhood has some festering issues which are related to planning. Perhaps an arrangement could be made with a few residents of such a neighborhood to explore these problems in an

encounter group with the students. Every university exists in a community and every community has planning problems. How are they communicated to the public? A course in community dialogue could make use of the local community, public hearings, city commission meetings, planning commission meetings and other public gatherings. Students need a course to develop their awareness of what's being said around them--a course where they are challenged to develop these observational powers.

In conclusion, this study suggests that communication is a tool which is just as significant to city planners as capital improvement programs. Communication, however, is taken for granted by most planners since communication failures aren't nearly as visible, although more frequent, than bond issue rejections. Communication needs to be recognized as a powerful factor in planning success.

FOOTNOTES

FOOTNOTES

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APPENDIX

City Planning Exam Question

Kansas State University

College of Architecture and Design

Department of Regional and Community Planning

109 635   City Planning I

Fall 1969-70
Class Assignment #6   Issued: January 16, 1970
Instructor: F. Gene Ernst   Due: January 22, 1970

TAKE HOME QUIZ:

1. Answer the following question as if you were preparing material for a
    "question and answer" brochure, being prepared by your City Planning
    Commission to be distributed to the general public.

                 Why do we need Citizen Participation
                 In the Planning Process?

    You should gauge your response to a two page, double spaced, typed, text.

    Turn your paper in by January 22nd, my office E 212.

In-Group Analysis:

Pilot Study

PILOT STUDY

<u>Review</u>

The pilot study conducted by this researcher which developed and
tested the concept of "In-Group" Term Analysis was undertaken in the winter
of 1969 and the results are reported in an unpublished report submitted as a
course requirement to the Kansas State University Journalism Department
titled, "Intergroup Communication and In-Group Terms." This is an abstract
of that report.

<u>In-Group terms</u>.--The purpose of the study was to develop a method of
analyzing messages intended for an intergroup situation. The problem was to
identify "In-Group" Terms and their explanatory effort. "In-Group" terms are
defined as terms which may not enjoy commonality of meaning between different
social groups, classes or roles. A more specific definition by categories is
as follows:

1. Technical Term--A word used primarily by a particular group of
    professionals as a distinctive part of their working vocabulary,
    such as "capital improvements."

2. Special Meaning Term--Common everyday words with distinctive
    meanings of uses for the group member, such as "planning" or
    "land use."

3. Tip Toe Terms--Vague words with either a variety of meanings or
    little meaning at all. A term which may be used by the group
    member to avoid detailed discussion on topics which are either
    controversial or unexamined such as citizen "wants and needs" and
    "communication."

These three definitions provide working categories by which "In-Group" Terms

can be identified. Hopefully they could provide a focus for the coder who

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may be attempting to apply "In-Group" Analysis.

The following hypotheses guided the study:

1. Communication breakdowns between city planners and their lay publics are partly due to the use of "In-Group" terms which can be observed in their written communication to the public.

2. The "In-Group" Terms used by planners are seldom explained, defined or related to the audience. In other words, planners generally assume their terms are understood as used without elaboration.

The study assumes that the problem of communication breakdowns between planners and their municipal public actually exists. This assumption was based on the researcher's experience as a public information officer working with planners in an urban renewal program.

Method.--In order to develop the "In-Group" Term Analysis method, written communication was obtained from the second-year planning students in the KSU Department of Community and Regional Planning Studies. The reports of the three foreign students in the class were eliminated as the foreign language variable would only complicate the study. This left a total of eight responses to analyze.

The written material resulted from an "exam" situation in which the students were instructed to answer a question as if they were writing for a general audience in a "question and answer" brochure. The question was: Why do we need citizen participation in the planning process?" The students' responses varied from 72 to 322 words. For the analysis, only the first 100 words were used, this being the section in which most writers define their terms.

The coding sheet developed for the analysis was divided into two sections: The type of term by definition category--whether technical, special

meaning or tip-toe and the explanatory effort categories (which will be dis-
cussed later). In addition, the coding sheet also contained a column in
which to write the term identified and the number of uses of that exact term.

A _term_ is identified as a noun or verb plus modifiers, if any, or a
noun with its modifying prepositional phrase. For example, "City problems"
would be considered a term as would "problems of the city." Sometimes a
double noun or verb can be a single term such as "growth and development," or
"organize and initiate." The verb-noun structure was not included as a term;
this would be considered a phrase. A simple variation of a word or term--
generally the plural form, as in "plan" and "plans"--is considered the same
term in counting the number of uses. However, if a change in structure
changes the meaning--such as "plan" to "planning" or "planner"--they are
counted as separate terms.

The second part of the coding process is the identification of _explan-_
atory efforts which are defined as follows:

1. Definition--An obvious explanation of a technical term which
   usually begins . . . "can be defined as . . ."

2. Inferred Definition--A swallowed definition, one which isn't
   pointed out as a definition. These are frequently buried in the
   following sentence, sometimes as a parenthetical comment. For
   example note the buried definition in this quote from a _Time_
   article:
      "During World War II the U. S. Army field commanders dis-
      covered that they were losing more troops to combat stress
      than to the enemy. One man in ten was knocked out of action
      by battle-induced mental disorder . . ."
   The inferred definition of "combat stress" is "battle-induced
   mental disorder."

3. Illustrations--A common literary method of explaining an idea
   by citing an example.

4. Figuratives--Figures of speech, such as similes, metaphors, and
   analogies which attempt to expand the reader's understanding,
   such as "downtown" is the heart of the city.

Once again these categories serve as a focus for the coder. In addition these particular categories provide a breakdown by which the explanatory effort may be weighted. It seems logical that the definition will be of more explanatory value than an inferred definition or a figurative. Illustrations seem to be equally as effective as definitions.

This need for a system of weighting the explanatory effort led to the development of a scoring system. The following point system was used for the explanatory attempts:

<u>Category</u>   <u>Points</u>

Definition . . . . 3 points
Illustration . . . . 3 points
Inferred Definition . . . . 2 points
Figurative . . . . 1 point

Figure 6. Point system for In-Group scoring.

To arrive at the "In-Group" score the "number of uses" column is totaled. The total score for the explanatory effort is computed based on the above point system. The smaller figure is then subtracted from the larger. If the number of uses is greater than the explanatory score the final score will be a minus. If the explanatory score is greater than the number of uses the final score will be a plus.

By applying "In-Group" analysis procedures to the eight student planners I arrived at the range of scores shown in Figure 7.

<u>Validity test</u>.--As part of the research project a validity test was conducted using selected magazine to see if the scores reflected a logical range of explanatory effort and "In-Group" Term use. The result of this test does not constitute a media index but it does provide a range by which the

student scores can be compared.

Student Score

```
D . . . . . . . . -17
C . . . . . . . . -16
B . . . . . . . . -15
F . . . . . . . . -13
H . . . . . . . . -11
E . . . . . . . . -11
A . . . . . . . . - 8
G . . . . . . . . - 5
```

Figure 7. Student In-Group scores
from pilot study.

Twelve different articles representing an inter-group communication
effort were analyzed by "In-Group" analysis for this validity check. The
magazines and articles were picked on the basis of their appeal to either a
mass or special interest audience. Time, Reader's Digest, and Change (pub-
lished by the Urban Renewal Agency of Kansas City, Kansas for its project
residents) were assumed to be written for a general audience. The AIP
Journal (American Institute of Planners) was presumed to be a technical pub-
lication and written for a professional audience. American Home, Sports
Illustrated and the New Republic were special interest publications. The
researcher made no predictions as to where they might fall. Highlights, a
children's magazine was assumed to be very non-technical with either a small
number of "In-Group" terms or a high degree of explanatory efforts. The test
assumed that Highlights and the AIP Journal would be at opposite ends of any
scale based on "In-Group" Term use. The range of scores supported the valid-
ity of the test procedure in that the professional journal is very high in
"In-Group" term use and explanation and the children's magazine is low. The
general audience publications of Time, Reader's Digest and Change were more

in the middle range and in the order expected. The scores for the media are
as follows:

<div align="center">

Magazine	Score
AIP Journal: Highways	-13
American Home: art noveau	- 7
New Republic: Catholic Church	- 5
Time: legal	- 4
Time: psychiatric	- 3
New Republic: Arabs	- 2
Sports Illustrated: hunting	- 1
Change: Mayor's editorial	0
Reader's Digest: Urban Renewal . . .	+ 1
American Home: flowers	+ 3
Highlights: Space Exploration	+ 5
Highlights: tree hollows	+ 7

</div>

Figure 8. Media In-Group scores from pilot study.

The value of this media range is that it provides a comparison scale
for the student planners' messages. As can be seen, four of the planners had
scores of -13 and above, a high degree of "In-Group" Term used than even
their professional journal. None of the students were writing on the level
of the general mass media publications such as Reader's Digest.

Reliability test.--A simplified reliability test was also conducted on
the method by asking a second coder to analyze four of the messages. The
following percentages of agreement were calculated based on the number of
uses identified by both coders in five categories:

<div align="center">

Categories	Percentage
Total number of terms	90%
Form of term	79%
Number of uses	95%
Type of term	83%
Explanatory effort	95%

</div>

Figure 9. Inter-coder agreement percentages.

There seemed to be a high degree of agreement in the number of uses and the explanatory effort. The recognition of terms, while still fairly high, had less agreement than explanation and number of uses. The two categories which are lowest in agreement consider the actual form of the term and the type of term. These agreement percentages suggest that the most difficult aspect of this "In-Group" Term Analysis is deciding on the words to be included as a term and then assigning the term to one of the three categories of technical, special meaning, and tip-toe.

The heart of the analysis is the actual recognition of the term. Since the 90% agreement factor in the total number category fell in the middle of the five factors, a second method of evaluating inter-coder agreement was used. The Evaluative Assertion method of content analysis developed by Osgood[78] had the same problem of term identification except his coders were attempting to evaluate "Attitude Objects" which he refers to as AO's. The formula used by Osgood was

$$\frac{2\ (AO_{1,2})}{AO_1 \ + \ AO_2} \ ,$$

where AO_1 is the total number recognized by coder 1 and AO_2 is the total number recognized by coder 2. $AO_{1,2}$ is the number of terms agreed upon by both coders. Osgood reports that the average inter-coder agreement for his study by this formula was 82% over all messages. The lowest was 77%; the highest was 88%.

The application of this formula to "In-Group" Term Analysis and the work of the two coders gave an average agreement of 86%. Of the four manuscripts analyzed, the highest agreement was 93% and the lowest was 79%. The

results of this inter-coder agreement check compares favorably with the criteria established by Osgood.

Findings.--The exploratory study found that "In-Group" Terms can be analyzed in written communication from one group to another. Specific findings were that the student planners did use a large number of In-Group Terms without adequate explanation based on the range of scores of the mass media.

Revisions

After reviewing the Pilot Study which developed the concept of In-Group Analysis, the conclusion was reached that additional effort was needed to revise the categories and scoring system as well as further test the method for reliability.

Categories.--The first major decision was to drop the definitional categories from the code sheet. These categories were developed originally to help the coder make the decision as to whether the word or term should be considered In-Group. This can be accomplished by including these definitional categories in the Instructions to the Coder. (See sample Instructions to the Coder, as well as the original and revised code sheets in the Appendix, pp. 88 - 95.)

The Pilot Study also considered weighting these categories to develop the score. In the Inter-Coder Agreement Test, however, the results indicated that recognition by definitional category had one of the smallest percentages of agreement of the five areas considered. It seemed unwise to consider this rather undependable factor in computing the score.

If the categories were not to be included in the scoring system then there was little reason to ask the coder to make the decision regarding

definition type. As a result, references to the type of In-Group term will appear only in the Instructions to the Coder and then only as an aid.

A second major revision was to expand the "number of uses" category. The "uses" are identified in this study in three ways: "with explanation," "without explanation," and "following explanation." These categories were included in order to discriminate between words with adjoining definitions and subsequent uses of that same word. Obviously an immediate definition has more explanatory value than a word which is used several times later in the text following a definition. If the breakdown of "with explanation" and "following explanation" is used, then the categorization needs "without explanation" to be complete.

A third revision was in the "explanatory" categories. The Pilot Study experiences indicated that the four categories of definition, "inferred definition," "figurative" and "illustration" were not sufficient. Frequently a term would be described in detail--usually by size, color, quantity, or location--and it was difficult to fit this obvious explanatory effort into the existing categories. This led to the addition of a fifth category, "description."

Scoring.--In the Pilot Study scoring was based on assigning points for the explanatory efforts, counting the number of uses, and comparing the two figures. The range was from plus to minus with plus scores high in explanation and the minus scores low in explanation. The development of specific categories within the "uses" category permitted weighting this factor also and provided a method of combining the two factors rather than comparing them.

A few changes were made in the points assigned to the explanatory efforts. Originally the "definition" and the "illustration" categories were

given three points, however, through repeated use of the method, it became obvious that "definitions" provided more clear-cut explanations than "illustrations." Therefore the "illustration" category was dropped to two points.

The new "description" category was judged to be similar to the "figurative" category in explanatory power.

The weighting system attempted to implement the Pilot Study experiences which indicated that definitions were most effective, figuratives and descriptions were least effective, and the illustrations and inferred definitions were generally in between in effectiveness. This three part breakdown seemed most workable. Simply assigning points from one to five would have weighted the definition category as five times more effective than descriptions which probably would demand serious statistical evaluation. The revised points for weighting the explanatory efforts used in this study are as follows:

Category	Points
Definitions	3
Illustrations	2
Inferred Definitions	2
Figuratives	1
Descriptions	1

Figure 10. Revised point system for In-Group scoring.

In the "Use" categories, the decision was made that "with explanation" and "without explanation" uses were of equal importance--but opposite in value. In other words, if one point is given for a "with" use then one point should be subtracted for a "without" use. The assumption is that it is just as important to explain a term as it is harmful to use a term without any explanation.

A complicating factor was the "following" category. It seemed that a use following explanation would have positive value, although not as much as a use with immediate explanation. Subsequent uses might be valuable to reinforce or anchor a new concept. In order to give a point for a "following" use, the "with" and "without" categories had to jump to $\pm$ two. The points finally decided upon for the "use" categories are as follows:

Category	Points
With Explanation	+2
Following Explanation . .	1
Without Explanation . . .	-2

Figure 11. Weighting system for "use" category.

The total score is computed by adding the number of entries in each column in the "use" and "explanation" categories. The total in each column is adjusted according to the point system explained above. The total score is the sum of the adjusted columns.

The overall result of this scoring system is to give points for explanations and penalties for unexplained terms. In other words a high In-Group score suggests ease in understanding and a low score suggests difficulty.

This system, however, is reverse of the Fog Count developed by Gunning, which results in low scores suggesting readibility ease. Since this research design included comparisons with Fog Count, it would be valuable to reverse this scale and find a factor which would bring the In-Group scores within the same numerical range as the Fog Count.

The method used to adjust the score is: subtract the raw score from fifty and divide by two. This procedure was tested on a sample of magazine articles and their In-Group scores fell within the same range as their Fog Scores.

This method of computing In-Group scores will be used throughout this study. References to In-Group scores will always mean the adjusted score with a high number suggesting difficulty in understanding and a low number suggesting readibility ease.

Inter-Coder agreement.--To further test the reliability of the method an inter-coder agreement test was conducted. Three additional coders were chosen, only one of whom was familiar with the method of In-Group Analysis. The other two coders were seniors in the Journalism program at Kansas State University and unfamiliar with any type of readibility test.

The three messages to be analyzed were chosen from articles in Readers Digest, New Republic, and Time. All three articles were on specialized or "technical" topics: medicine, ecology, and psychiatry. It was assumed for the average audience of these individual publications, some explanation would be needed.

The coders were given the "Instructions to the Coder" and the method was reviewed briefly. A fourth article from Highlights, a children's maga- zine, was introduced as a pilot test and analyzed by the group as a whole.

The same formula used in the Pilot Study to evaluate agreement was used with this study. This formula developed by Osgood[79] to check identifi- cation of terms which he called "Attitude Objects" (AO's) is expressed by this formula:

$$\frac{2\,(AO_{1,2})}{AO_1 \quad + \quad AO_2}$$

AO_1 is the total number recognized by coder 1 and AO_2 is the total number

recognized by coder 2. $AO_{1,2}$ is the number of recognitions agreed upon by both coders.

To apply this formula to In-Group analysis, the total number of identifications were counted including term recognition and categorization. Likewise the total number of agreements was counted in both recognition and categorization.

With four coders, six possible pairs could be analyzed for each article. The following chart indicates agreement percentage for each pair and article:

Coders	Time	Readers Digest	New Republic	Ave.
1-2	81	93	90	88
1-3	78	71	85	78
1-4	82	79	80	80
2-3	73	74	75	74
2-4	93	73	75	80
3-4	77	85	71	78
Average	81	79	78	80

Figure 12. Revised inter-coder agreement percentages.

(note: Coder #1 is this researcher, #2 is the only other coder with experience in In-Group Analysis)

The overall agreement rate is 80%. The lowest is 71% and the highest is 93%. By comparison, Osgood cited an agreement average of 82%. His lowest was 77% and his highest was 88%.[80] This expanded agreement test also seems to compare favorably with Osgood's.

One additional observation: the average agreement percentage for

coders 1 and 2 was 88%. The average agreement for 3 and 4 was 74%. One possible reason for this difference is the fact that both 1 and 2 were familiar with the method. Conceivably the agreement rate could be higher if the coders were trained.

Reliability.--The analysis of magazines conducted in the Pilot Study also has been revised and expanded for this study. The reason for subjecting the sample magazines to further In-Group Analysis was to develop a score for each magazine which could be compared with the magazines' Fog Scores. This was an exploratory study to see if there was a general pattern of agreement between the Fog and In-Group scores obtained from articles in the mass media. Actually this study would give some indication as to whether it would be possible to obtain scores for the city planners' message that would fit the research design of high-high, low-low, high-low and low-high.

Four issues of eight different magazines were chosen for the sample. The issues were within a time period from late 1968 to early 1970. The issues were picked on the basis of availability to the researcher as well as the identification of an article which represented an attempt to explain a special interest or "technical" subject for a non-technical audience. For example, Time has regular sections on psychiatry and law. It is assumed that the readers of Time include people other than psychiatrists and lawyers and, therefore, some explanation of terms might be needed. In a women's magazine, articles may appear on gardening written by a botanist. Does he use technical terms and, if so, does he explain them?

Both In-Group Analysis and Fog Count were conducted on all 32 "technical" articles. The average scores for each magazine are compiled in the following figure.

Magazines	Fog	In-Group
Highlights	9	11
Boys' Life	9	12
Time	14	13
Readers' Digest	15	14
Family Circle	11	15
Atlantic	19	15
New Republic	17	17
AIA Journal	19	19

Figure 13. Media Fog and In-Group scores.

An overall comparison indicates that the two methods have a general pattern of agreement. The same magazines are high and low, as logic would indicate. The children's publication is low in both, although the In-Group score is slightly higher. The architectural journal is high in both with identical scores.

It is obvious, however, that inconsistencies do exist in several of the publications. Family Circle is tied for the third highest score by In-Group and has the third lowest Fog score. Atlantic is tied for the highest Fog score and drops to the third highest In-Group score. Both magazines have a four point difference in scores. All of the other magazines have a difference of two points or less. The Atlantic and Family Circle examples suggest that it is possible for the same messages to be high in one factor and low in the other.

This exploratory study of magazine scores supports the research design outlined for this study of city planner's messages. It appears to be possible for a set of messages to have samples which are either high in both

factors, low in both, or high in one and low in the other.

In addition, this study of a sample of magazines provides an indication of reliability for the In-Group method. As mentioned earlier, the magazines which are assumed to explain terms in detail, such as childrens magazines like Highlights and Boys' Life receive low In-Group scores. Publications which are less concerned with definition of terms, such as the AIA Journal, New Republic and even Family Circle, received high In-Group scores.

One additional question did arise as a result of this exploratory study. The Fog Scores given by Gunning[81] for four of the magazines included here were much lower than the scores obtained in this study. For this reason an additional four articles were selected in the same four issues of these magazines for further comparison. These four articles were as "non-technical" as possible and preferably staff written. The three different Fog scores are illustrated below:

Magazines	Gunning	Non-Technical	Technical
Women's Magazines (Family Circle)	7	11	11
Readers' Digest	8	8	15
Time	10	11	14
Atlantic	12	13	19

Figure 14. Comparison of media Fog scores.

The "non-technical" articles dropped within at least one point of gunning's scores in three of the four samples. Family Circle, however, was still high. This could indicate that other magazines surveyed by Gunning in the women's magazine category were written at a much lower level. The fact

that all four non-technical scores were still higher, even if only one point, indicates this researcher either applies Fog Count more stringently than Gunning or that a slight shift in writing level has occurred since Gunning first established these scores in the 40's.

In-Group Analysis:

Instructions to the Coder

IN-GROUP ANALYSIS

Instructions to the Coders

PURPOSE: To identify explanations.
In-Group Analysis is basically concerned with attempts to clarify or relate words, terms or concepts used by members of one group when they are communicating with another group.

DEFINITIONS:

In-group--A word or group of words with special meanings to people in a certain role or social grouping

Term--A noun or verb plus modifiers or a noun with its modifying prepositional phrase (very seldom a verb-noun or noun-verb phrase). Ex.- "city problems" would be considered a term as would "problems of the city." Sometimes a double subject or series can be a specific term when used as a single thought such as "growth and development."

METHOD:

1. Read entire 100-word selection carefully

2. Identify subject, writer, and audience

3. Identify terms and enter on code sheet

   a. A Guide to In-group terms (These categories aren't to be marked on the code sheet; they are only for your assistance in recognizing the terms.)

      1. Technical Term--A word used primarily by a particular group of professionals as a distinctive part of their working vocabulary such as "capital improvements," "public works," or "citizen participation."

      2. Special Meaning Terms--Common everyday words with distinctive meanings or uses for the professional such as "planning," "land use" or "city official."

3. Tip-Toe Terms--Vague words with either a variety of meanings or little meaning at all. A term frequently used by the professional to avoid detailed discussion on topics which are either controversial or unexamined such as "citizen wants and needs" or "communication."

4. Consider each term individually and decide if there is an explanatory effort for it. If so check on code sheet.

   a. A Guide to explanatory efforts:

      1. Definition--A statement of meaning. Usually an obvious explanation which begins "....can be defined as ..." Sometimes definitive statements begin with "which are...," "that does...", or "is...."
      Ex. "A cooking onion is a true bulb."

      2. Illustration--An explanation by example, by citing similar situations or attributes.

      3. Inferred Definition--A swallowed definition, one which isn't pointed out or obvious as a definition. These are frequently buried in the following sentence sometimes as a parenthetical comment. For example, note the buried definition in this quote: "During World War II the U.S. Army field commanders discovered that they were losing more trips to combat stress than to the enemy. One man in ten was knocked out of action by battle-induced mental disorder..." The inferred definition of "combat stress" was "battle-induced mental disorder."

      4. Figurative--Figures of speech, such as similes, metaphors, and analogies, which attempt to expand the reader's understanding.
      Ex. "Downtown is the heart of the city."

      5. Description--A general method of adding details to a mental picture.

5. Identify type of use--either with explanation, without explanation or following-- and check the code sheet.

SUGGESTIONS:

1. When you evaluate the explanatory attempt ask yourself, "Is there a definition (figurative, description, etc.) for this word?" not"Is this word a definition (figurative, description, etc.)?"

2. In checking for explanatory efforts, you may consider material one or two sentences beyond the 100-word sample.

3. An explanatory attempt may be either before or after the word, however, if it is following, then it needs to be within the sentence or in the following one to count in the "with definition" category.

4. One term can be explained several times in several different ways. It may have two or three descriptions and within one of the descriptions you might find a figurative.
   Ex. "A cooking onion is a large bulb like an orange in size."
   term--"cooking onion"
   definition--"large bulb"
   description--"like an orange in size"
   figurative--"like an orange"

In-Group Analysis:

Original Code Sheet

Student _____

Total Words _____

Terms	# of Uses	Tech	Spec Mean	Tip Toe	Def	Ill	Inf Def	Fig
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
Totals								

Score _____

In-Group Analysis:

Revised Code Sheet

CORE SHEET
In-Group Analysis

Source _____ Topic _____ Audience _____

Terms	# of Uses			Explanation				
	With	W/O	Follo	Def	Ill	Inf Def	Fig	Desc
Totals								
Adjusted Totals								

"Blanked" Messages used in the "Cloze" Tests

ARTICLE ON ACTIVITIES AND THE ENVIRONMENT

What begins as an _____ curiosity for lessons to _____ added to architecture from _____ disciplines soon gives way _____ entirely new concepts and _____ terms. This is, I _____, the case today with _____ emerging conceptions of our _____ environment.

An approach of _____ relevance to the designer _____ to view the environment _____ a place through which _____ processes move, each with _____ own requirements and rate _____ change. A list of _____ processes would include: human _____ and interaction which take _____ forms each second; movement _____ which can be monitored _____ minutes or days; partitioning, _____ example by means of _____ or furniture which are _____ monthly or yearly; technological _____ and mechanical servicing, which _____ a predictable life of _____ little as six months in some buildings.

Years of education completed _____

ARTICLE ON GARDENING

Hardy bulbs are _____ about the most satisfying _____ a gardener can make. _____ are "prepackaged," sure to _____, and save work. Plant _____ in the fall; in _____ spring--bloom! All bulbs _____ not look alike. Some _____ rather tiny; others, quite _____--larger than a cooking _____, which incidentally, is also _____ true bulb. The thin _____ skin of the bulb _____ usually a tawny brown. _____ are layers of scales _____ provide stored food for _____ young plant within. When _____ plant a bulb in _____ ground, it sends out _____ promptly to anchor itself _____ then rests until spring. _____ the food stored in _____ scales is used up _____ the bulb to push _____ foliage and flower bud _____ the earth.

Years of education completed _____

CITIZEN INVOLVEMENT BROCHURE

Question: Why do we need citizen participation in the planning process?

Answer: The citizen must be _____ participant in the planning _____ because the results of _____ lead to an impact _____ the physical structure and _____ social structure of a _____ community.

Essentially, we are _____ advocacy planning which is _____ expression of values of _____ citizens of a community _____ an advocate. This form _____ planning is not limited _____ any specific group but _____ to all interest groups, _____ units, business, and industry _____ the community. All are _____ by an advocate who _____ be a planner performing _____ role of a technical _____ to a specific group _____ groups in a community.

_____ citizen is the client _____ the advocate; the advocate _____ turn accepts his client's ___ _____ and devises means by _____ to attain these goals.

years of education completed _____

CITIZEN INVOLVEMENT BROCHURE

Question: Why do we need citizen participation in the planning process?

Answer: With the goal _____ the planning process to _____ the environment in which _____ live, it will affect _____ citizen, whether rich or _____, in one way or _____. All of us have _____ needs of and desires _____ the city's environment.

  There _____ many alternatives or courses _____ action which can be _____ to provide the services _____ want. Eventually, the planners _____ have to make certain _____ to the public officials _____ city council, which will _____ turn have to make _____ choice among a limited _____ of alternatives in pursuit _____ the goal. This choice, _____ example a choice between _____ and low-rise housing developments _____ the geographical location of _____ a development, will undergo _____ formal decision-making process _____ the council.

Years of education completed _____

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A COMPARATIVE STUDY OF THREE READIBILITY METHODS
IN AN INTERGROUP COMMUNICATION SITUATION

by

SANDRA B. ERNST

B.J., University of Missouri, 1965

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AN ABSTRACT OF A MASTER'S THESIS

submitted in partial fulfillment of the

requirements for the degree

MASTER OF SCIENCE

Department of Technical Journalism

KANSAS STATE UNIVERSITY
Manhattan, Kansas

1970

ABSTRACT

Adlai Stevenson once commented, "Today there is less communication between groups of men than there was in the roadless world of a thousand years ago." In spite of the physical closeness which is a product of the modern miracles of transportation and electronics, groups of people still find it difficult to communicate with one another. The divisions, the gaps, the social distinctions are simply more obvious now than a thousand years ago.

The purpose of this study is to investigate two linguistic factors which may affect intergroup communication--or communication which attempts to bridge the gaps between black and white, affluent and poor, government officials and lay citizens, doctors and patients, teachers and students, parents and children and other divisions in society. The two factors used in this particular study are complexity of style and explanatory effort.

The study investigated whether the readibility techniques which evaluate these two factors are equally successful in predicting understanding in an intergroup situation. The study also explored a method of measuring the distance between groups based on their levels of understanding.

The research methods used to evaluate the two factors were In-Group Analysis, which is concerned with the explanatory effort made by the writer, and Fog Count which measures complexity of style. "Cloze" Procedure was used to develop the levels of understanding.

This particular study obtained sample messages from twenty-four students in a city planning class and tested their messages by Fog Count and

In-Group Analysis. The messages were written for a brochure to be distributed to the general public. Four messages were selected from this group for the Cloze test. This sample was picked by eliminating the non-city planning majors and then by picking the messages which were high in both complexity and unexplained terms, low in both factors, and two that were high in one and low in the other.

The "Cloze" messages were then given to a sample of planning professionals, undergraduate college students, and Head Start mothers and workers.

The study found that both readibility methods were successful in picking the easy and difficult to understand messages. It also found that the two factors were not interdependent and that a message could be high in complexity and low in unexplained terms or vice versa. For the two messages which split in this way, the Cloze test indicated that the level of understanding followed the explanatory scores. In other words, in this study the In-Group Analysis scores were generally supported by the Cloze scores when there was difference between the In-Group scores and the Fog Count.

The study also found that generally the Cloze scores indicated "distance" between the professionals and the non-professionals and between the highly educated and the less well educated groups.