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AUTHOR Griffin, Thomas E.
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ABSTRACT

This study tested the hypothesis that regular communication students are oriented to more symbols and their meanings than are developmental communication students and thus have more ways to receive information. One-hundred students (50 regular and 50 developmental) at Central Piedmont Community College were given the 220-item Cognitive Style Interest Inventory, developed by Oakland Community College. The inventory measures major and minor cognitive style orientations. Results substantiated the hypothesis. Of the four major theoretical symbol orientations (auditory, visual, linguistic, and quantitative), regular students had a mean of 1.44 major orientations while developmental students had a mean of 1.04 major orientations. Fifteen developmental students and eight regular students were found to have major orientations to no theoretical symbols. Of the fifteen qualitative symbol orientations, regular students had a range of 3 to 15 major orientations with a mean of 9.94. Developmental students had a range of 0 to 13 major orientations with a mean of 6.84. Implications for instruction are discussed. A list of symbols and their meanings, a graph of theoretical symbolic orientations of the two groups, a graph of qualitative symbolic orientations of the two groups, a qualitative orientation profile for each group, a literature review, and a bibliography are included. (DC)

DIFFERENCES BETWEEN DEVELOPMENTAL STUDIES COMMUNICATION STUDENTS AND REGULAR COLLEGE COMMUNICATIONS STUDENTS IN THEIR ORIENTATION TO SYMBOLS AND THEIR MEANINGS

By

Thomas E. Griffin

Central Piedmont Community College

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CONTEXT OF THE PROBLEM

Educators in community colleges have traditionally placed students into regular or developmental communications courses primarily based on the students' performance on standardized examinations. There is no doubt that these standardized tests show wide ranges of abilities of entering freshman students. But with the emphasis in community colleges to individualize the learning process, other ways need to be investigated to discover more about each individual's style of learning.

McAdams (1971) demonstrated that matching of teaching style and learner style would influence the learning attitude about the instructional experience. The purpose of this study is to determine more about learner's styles using the same conceptual framework of the educational sciences. Wasser (1969) investigated Cognitive Style as it related to a teacher's system of student appraisal. He showed that teachers tend to center on auditory and visual verbal abilities when appraising a student's performance. Shuert (1970) , using the cognitive style conceptual framework, concluded that certain elements of cognitive style seem to increase the probability of the student's success.

Schroeder (1970) concluded that English students with similar cognitive styles to their instructors evaluate the teacher as being more "effective" than those students who have dissimilar cognitive styles.

In this study as in previous studies in this area, the measurement of a student's cognitive style will be according to the conceptual framework of cognitive style as set forth in the educational sciences, Hill (1972). Students in the sample will be asked to respond to a 220 item Cognitive Style Interest Inventory prepared by Oakland Community College.

Students' responses will be analyzed by Oakland's facility and will produce a readout showing each sample student's major and minor orientations. These orientations will be presented in the symbolic format of a cognitive style map. (See Appendix A for a list of symbols and their meanings.) Hoogasian (1970) has shown this instrument to be reliable in discriminating differences in students' cognitive styles (see also Hill, J. E. and Nunney, D. N., 1971). Thus the expectation was that regular communication students are oriented to more symbols and their meanings than developmental communication students with the recognition that this hypothesis is based on a cognitive style interest inventory.

PROBLEM

The purpose of this study was to examine the relationship between the symbolic orientations of developmental communication students and regular college communication students. Specifically, the objectives of the study were to determine if the symbolic orientations of developmental communication students differs significantly from the symbolic orientations of regular college

communications students.

REVIEW OF LITERATURE

Educational Sciences

Dr. Joseph E. Hill working with staff members of Wayne State University College in Michigan created the Educational Sciences as a common structure for the applied field of knowledge called education. At the present time there are seven educational sciences: (1) Symbols and Their Meanings; (2) Cultural Determinants; (3) Modalities of Inference; (4) Memory Concern; (5) Cognitive Style; (6) Teaching, Administrative, and Counseling Styles; and (7) Systemic Analysis Decision-Making.

Hill (1966, 1967, 1968, 1969, 1970) defines and describes the seven sciences. Hill and Nunney (1970, 1971, 1972) describe applied aspects of educational sciences in terms of programs of instruction.

Symbols and Their Meanings

This study investigated only the first science, symbols and their meanings. The basic assumption of this science is that man uses two kinds of symbols: theoretical and qualitative. This distinction is derived primarily from Champlin (1952) and Villemain (1952, 1959). Further support for the distinction can be found in the writings of Korzybski (1949, 1950), who emphasized that the symbols influence the functioning of the

nervous system and Papaport (1962) who argued that man can mediate more than one type of symbol.

Dissertations by Morehead (1963) and Saunders (1963) under the direction of N. Champlin emphasized the necessity of symbolic precision in teaching and research and suggested methods for obtaining precision.

Individualized Learning

The construct of cognitive style which was developed as one of the educational sciences is different from those defined in the field of psychology. Employing a modified form of Guttman's (1954-1955, 1959) metatheory of facets as a model, the concept of cognitive style is defined as the Cartesian product of the sets: (1) Symbols and Their Meanings (2) Cultural Determinants (3) Modalities of Inference. In this context, Cognitive Style is somewhat related to Guilford's (1967) "Dimensions of Intellect."

Symbolic Orientation and Academic Achievement

At times, research has shown that Cognitive Style may be related to academic performance. Hoogasian (1970) and Berry (1973) identified "collective" cognitive styles for better grades. A student with more elements, usually majors, tends to get higher grades, Blosser (1971). Cognitive style and academic performance have been studied in various curriculum areas, such as mathematics, Blanzy (1970) and Spitter (1970); nursing, Lang (1972) and English, Hoogasian (1970). Robinson (1969) studied high risk

students at a university. Bass (1972) explored procedures for measuring and mapping qualitative symbolic orientations. Cutter (1970) investigated the effects of the meanings of symbols on curriculum choice. And Dehnke (1966) explored the possible isomorphism of cognitive style and successful teaching.

HYPOTHESIS

Using selected aspects of the cognitive style conceptual framework, students entering "regular" communication courses will demonstrate a major to more symbols and their meanings than students who first enter a "developmental" communication course.

RATIONALE FOR HYPOTHESIS

As has been described above, cognitive style has been studied in reference to several academic areas. Bass (1972) explored procedures for measuring and mapping qualitative symbolic orientations. Griffin (1973) showed that developmental students will demonstrate different orientations in their cognitive styles. Within classes of thirty students there have been identified as many as thirty different qualitative orientations and as many as twelve different theoretical orientations. Based on these data, it can be argued that students in developmental communication courses will demonstrate different symbolic orientations than those students who begin their communication courses on the regular college level.

INDEPENDENT VARIABLE

"Regular" communications students versus "developmental" communi-

cation students.

DEPENDENT VARIABLE

Degree of orientation to symbols and their meanings.

CONTROL VARIABLES

Freshman students, Cognitive Style Interest Inventory

OPERATIONAL DEFINITIONS OF THE VARIABLES

In this study "regular" communications students were defined as those students who initially registered for a beginning freshman communication course (in this case English 1304). Developmental communication students will be defined as those students who initially enroll in an advancement studies* communication course (in this case English 9300 or English 9310).

Education in this conceptual framework is defined as a search for meaning, and in this search most meaning is gotten through the interpretation of symbols and their meanings. Symbols are of two kinds: theoretical and qualitative (see Appendix A).

OPERATIONAL RESTATEMENT OF HYPOTHESIS

Students in regular communication classes were able to receive meaning in more ways than students who first enrolled in a developmental communication course. Operationally the student who has a major orientation to a greater number of symbols and

*advancement studies (developmental studies)

their meanings has more ways to receive information.

SIGNIFICANCE OF THE STUDY

It is hoped that this study will begin to answer some of the questions that instructors have concerning the relationships between "developmental" students and "regular" communication students. Current research indicates that ordinary standardized English examinations do not measure adequately the skills necessary to effectively place students. This study indicated that the teaching of communication skills may be related to teaching orientations to certain symbolic meanings, for example, kinesics, esthetics, ethics, etc. (see Appendix B).

METHODS

Subjects

S's were 100 freshman communication students at Central Piedmont Community College in Charlotte, North Carolina. Fifty of them were enrolled in a regular college communication course (ENG 1304), and fifty of them were enrolled in Advancement Studies (developmental) communication courses (ENG 9310, ENG 9300). S's were volunteers and no attempt was made to select on the basis of sex, age, I.Q.; although, it should be noted that S's in English 1304 classes would normally have a higher Cooperative English Expression score than those in English 9300 and English 9310.

Independent Variable

Regular communication students were those who enrolled initially

in a college communication course (ENG 1304). Their Cooperative English Expression scores were 152 or more on a converted scale. Developmental communication students were those who enrolled initially in a developmental communication course. Their Cooperative English Expression scores were lower than 152.

Dependent Variable

The dependent variable, orientations to more symbols, was measured by a Cognitive Style Interest Inventory. This Inventory is made up of 220 statements to which S's responded (A) Usually, (B) Sometimes, (C) Rarely. S's responses were analyzed in terms of majors (50 - 99 percentile), minors (49 - 29 percentile) and negligibles (28 - 0 percentile). Each S received a read-out showing his major and minor orientations. Negligibles were not printed on the map.

Fifty minutes were required to complete the inventory.

For this study only the number of major symbols for regular communication students were compared with the number of major symbols for developmental students.

Procedures

S's were recruited on a volunteer basis and each S completed the Cognitive Style Interest Inventory in one class period (50 minutes). The inventory is not timed, but it takes approximately 50 minutes

to administer. S's were urged to respond to the statements quickly, just as they felt. Their responses were: Usually, Sometimes, or Rarely. S's were told that when the data was analyzed, they would get a copy of their map and an explanation of their own cognitive style. Approximate time from initiation of test to reception of analyzed data will be one month.

Design

The design of this study was ex post facto with two criterion referenced groups with one observation of each group. By diagram the design was:

$$\begin{array}{c} C_1 \quad O_1 \\ \hline C_2 \quad O_2 \end{array}$$

Data Analysis

Data gathered from this study was statistically analyzed according to t-test format using the worksheet suggested by Tuckman (1972).

Results

Regular communication students were found to be oriented to more symbols and their meanings than were advancement studies communication students as hypothesized. For theoretical symbols the t value at the .025 level of significance was 2.33. And for qualitative symbols the t value at the .005 level of significance

was 3.01.

Means for both groups' theoretical orientations are shown in Figure 1.and means for both groups' qualitative orientations are shown in Figure 2.

Out of a possible four theoretical majors the mean for regular communication students was 1.44 and the mean for advancement studies communication students was 1.04.

Of the fifteen qualitative symbolic orientations tested for the mean for regular communication students was 9.94 and the mean for advancement studies students was 6.84.

Thus the data gathered strongly supports the hypothesis as stated.

Discussion

The hypothesis that regular communication students are oriented to more symbols and their meanings than advancement studies students was strongly supported. Although regular communication students have generally performed better on placement tests such as the Cooperative English Expression, precisely what orientations (understandings) they have which their developmental studies counterparts do not have has not yet been determined.

For example, theoretical symbols represent to the person something other than the symbol itself. And theoretical symbols may be auditory or visual and linguistic or quantitative. In this study

FIGURE I

COMPARISON OF THEORETICAL SYMBOLIC ORIENTATIONS

GROUP	REGULAR COMMUNICATION	ADVANCEMENT STUDIES
N=	50	50
ΣX=	72	52
$\overline{X}$	1.44	1.04

FIGURE II

COMPARISON OF QUALITATIVE SYMBOLIC ORIENTATIONS

GROUP	REGULAR COMMUNICATIONS	ADVANCEMENT STUDIES
N=	50	50
ΣX=	497	342
$\overline{X}$=	9.94	6.84

fifteen advancement studies students were majors to no theoretical symbols; twenty-two were majors to one symbol, nine were majors to two symbols and four were majors to three. Of the students in regular communication classes, eight showed no majors, seventeen were majors to one symbol, twenty were majors to two and five were majors to three. (see Appendix C for graph)

From the list of qualitative symbols tested for only one person was a major to all fifteen (a regular communication student). For this group the range in number of majors was from 15 - 3 with the mean being 9.94. For the advancement studies group the range in qualitative symbols was from a high of 13 majors to a low of zero with a mean of 6.84.

Several logical steps would follow from this study: (1) To which theoretical symbols are regular communication students more frequently majors (2) To which theoretical symbols are developmental studies students more frequently majors (3) To what qualitative symbols are most regular communication students most oriented and (4) To what qualitative symbols are developmental studies students most oriented (5) And what differences do these orientations make in teaching and learning?

Information of this type might lead to a totally different and perhaps more relevant kind of pre test. Rather than test only for subject matter, the results of this study indicate it might be wise to test for the ways one comes to know through various

symbols and their meanings. Under these conditions the kinds of orientations looked for might vary considerably from discipline to discipline. Appendix D-1 shows in rank order a profile of the qualitative orientations of regular communication students based on the data gathered. And Appendix D-2 shows in rank order a profile of qualitative orientations of advancement studies students. It is not surprising to expect some differences; it is however interesting to note where the major differences do occur. It is also interesting to hypothesize what effects these differences ought to make in the forms of instruction offered.

Recommendations:

How different individuals learn has raised many interesting questions particularly in open door community colleges that are committed to the concept of individualizing instruction, and in this case should the individualizing process be different for developmental students than for regular curriculum students. It is within this context and the results of the preceeding study that the following recommendations are made.

I. Assuming that students are oriented to different symbols and their meanings, it is imperative that learning environments with multiple options to learn be made available to all students, especially developmental studies students.

Essentially this means that no two students necessarily

learn the same thing in the same manner. Classes in developmental study communication programs will have to be structured differently from those in regular communication courses. More forms of instruction are already being used for developmental communication students: lecture, programmed text, small group instruction, slide/tape presentations, video, but other combinations will have to be developed.

Studies such as this are already causing changes in the development of learning environments in advancement studies through the creation of new modules, and as we develop our plan further the results are expected to influence other departments on campus.

II. Developmental studies communication students need information presented in an auditory fashion. The use of pure programmed instruction as a means for teaching developmental communication classes has already been adapted to include discussions, much more interaction between student and instructor, and more interaction between student and student.

Also as a result of this study more attempts are being made to convert major portions of programs to audio formats. These conversions include taped discussions of parts of the text both in audio and video formats.

III. Developmental studies communication students do not read as well as the regular communication students or at least they

show a strong preference not to. Efforts are being made as a result of this work and others to make reading for developmental students more related to their own interests.

At the same time efforts are being extended to investigate other ways to present the same information, some other way than in a visual linguistic format.

IV. One of the major recommendations to the departments mentioned in this study will be to establish ways of recognizing and using individual differences other than theoretical ones. For example, developmental studies students are more kinesthetically oriented. That is, they are capable and want to do things that require muscular coordination--action in other words. Already the advancement studies department is experimenting with the effects of drawings, use of cameras, collages, and work with clay as a means of communication.

Another example, both groups were highly oriented to the tactile sense--the sense of touch. Ways to incorporate this major sense into communications classes has yet to be established except through work with clay. Perhaps more arts and crafts need to be included in the communications courses.

V. Already plans are well underway at Central Piedmont Community College to establish what will be known as a communications center. This center will combine the

developmental communication courses with some of the regular communication courses in a large open space. This center will allow for multiple activities to take place under the heading of communications. In a setting such as this it is felt that more adaptations to the different symbolic orientations can be made.

VI. Since the idea of attempting to discover how one comes to know is a relatively new concept, it is recommended that particularly the Advancement Studies Department and the Communications Department establish as one of their objectives to learn more about individuals' styles of learning. Hopefully a continuing in-service training program will result.

VII. It is recommended that further study in this area be made perhaps from a more narrow point of view. If it is consistently found to be true that a student is oriented to a particular symbol and its meaning then all attempts should be made to include that symbol and meaning in that student's learning environment. Such a recommendation will, of course, affect the whole area of educational development including both the library and media services.

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SYMBOLS AND THEIR MEANINGS

1. T(AL) Theoretical Auditory Linguistic. Ability to find meaning through hearing spoken words.

2. T(AQ) Theoretical Auditory Quantitative. Ability to find meaning in terms of numerical symbols, relationships, and measurements that are spoken.

3. T(VL) Theoretical Visual Linguistics. Ability to find meaning from words you see.

4. T(VQ) Theoretical Visual Quantitative. Ability to find meaning in terms of numerical symbols, relationships, and measurements that you see.

5. Q(A) Qualitative Auditory. Ability to perceive meaning through the sense of hearing. A major in this area indicates ability to distinguish between sounds, tones of music, and other purely sonic sensations.

6. Q(O) Qualitative Olfactory. Ability to perceive meaning through the sense of smell.

7. Q(S) Qualitative Savory. Ability to perceive meaning by the sense of taste. Chefs should have highly developed qualitative olfactory and savory abilities.

8. Q(T) Qualitative Tactile. Ability to perceive meaning by the sense of touch, temperature, and pain.

9. Q(V) Qualitative Visual. Ability to perceive meaning through sight.

10. Q(P) Qualitative Code Proprioceptive or sometimes called the sixth sense; the ability to synthesize or to combine a number of associated symbols into a performance of a task; e.g., typewriting, playing a musical instrument.

11. Q(EM) Qualitative Code Empathetic. Sensitivity to the feelings of others; ability to put yourself in another person's place and see things from his point of view.

12. Q(CES) Qualitative Code Esthetic. Ability to enjoy the beauty of an object or an idea. Beauty in surroundings or a well-turned phrase are appreciated by a person possessing a major strength in this area.

13. Q(CET) Qualitative Code Ethic. Commitment to a set of values, a group of principles, obligations and/or duties. This commitment need not imply morality. Both a priest and a criminal may be committed to a set of values although the "values" may be decidedly different.

14. Q(CH) Qualitative Code Histrionic. Ability to exhibit a deliberate behavior, or play a role to produce some particular effect of other persons. This type of person knows how to fulfill role expectations.

15. Q(CK) Qualitative Code Kinesics. Ability to understand, and to communicate by, non-linguistic functions such as facial expressions and motions of the body (e.g., smiles and gestures).

16. Q(CKH) Qualitative Code Kinesthetic. Ability to perform motor skills, or effect muscular coordination according to a recommended, or acceptable, form (e.g., bowling according to form, or golfing).

17. Q(CP) Qualitative Code Proxemics. Ability to judge the physical and social distance that the other person would permit, between oneself and that other person.

18. Q(CS) Qualitative Code Synnoetics. Personal knowledge of oneself.

19. Q(CT) Qualitative Code Transactional. Ability to maintain a positive communicative interaction which significantly influences the goals of the persons involved in that interaction (e.g., salesmanship).

20. Q(CTM) Qualitative Code Temporal. Ability to respond or behave according to time expectations imposed on an activity by members in the role-set associated with that activity.

21. A Represents associates. It would show a major degree of influence by friends or persons other than family. A minor column A shows that associates do play some role in the decision making process.

22. F Indicates a major Family influence. The family influence might include immediate family, church or special authority figures. If your score is in the minor column, it indicates a "minor" family influence.

23. I Stands for Individual. An I in the major column indicates significant independence in decision making. A "minor" I indicates that the individual considers other influences but still controls decisions.

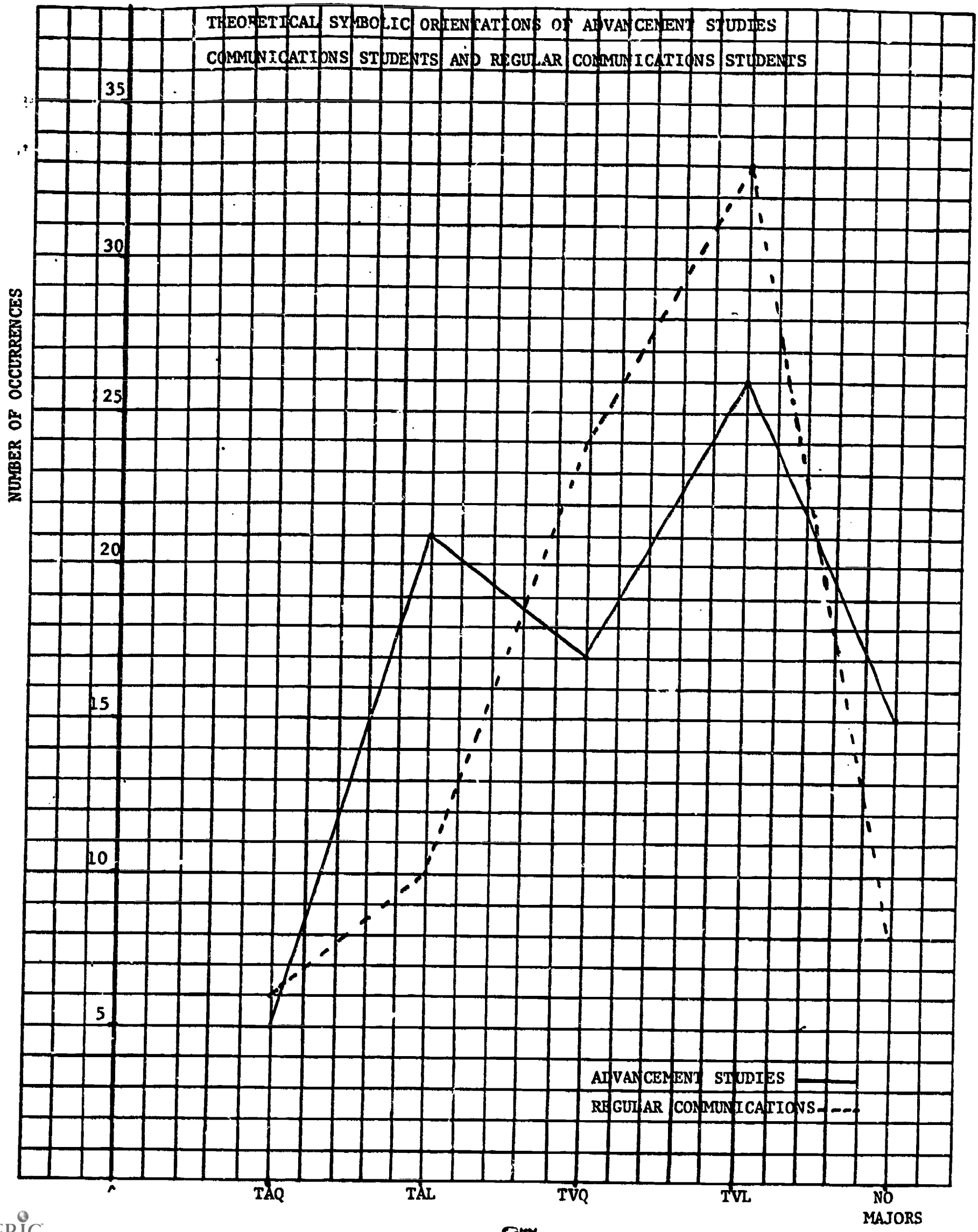
24. M Magnitude. A form of "categorical reasoning" that utilizes norms or categorical classifications as the basis for accepting or rejecting an advanced hypothesis. Persons who need to define things in order to understand them reflect this modality.

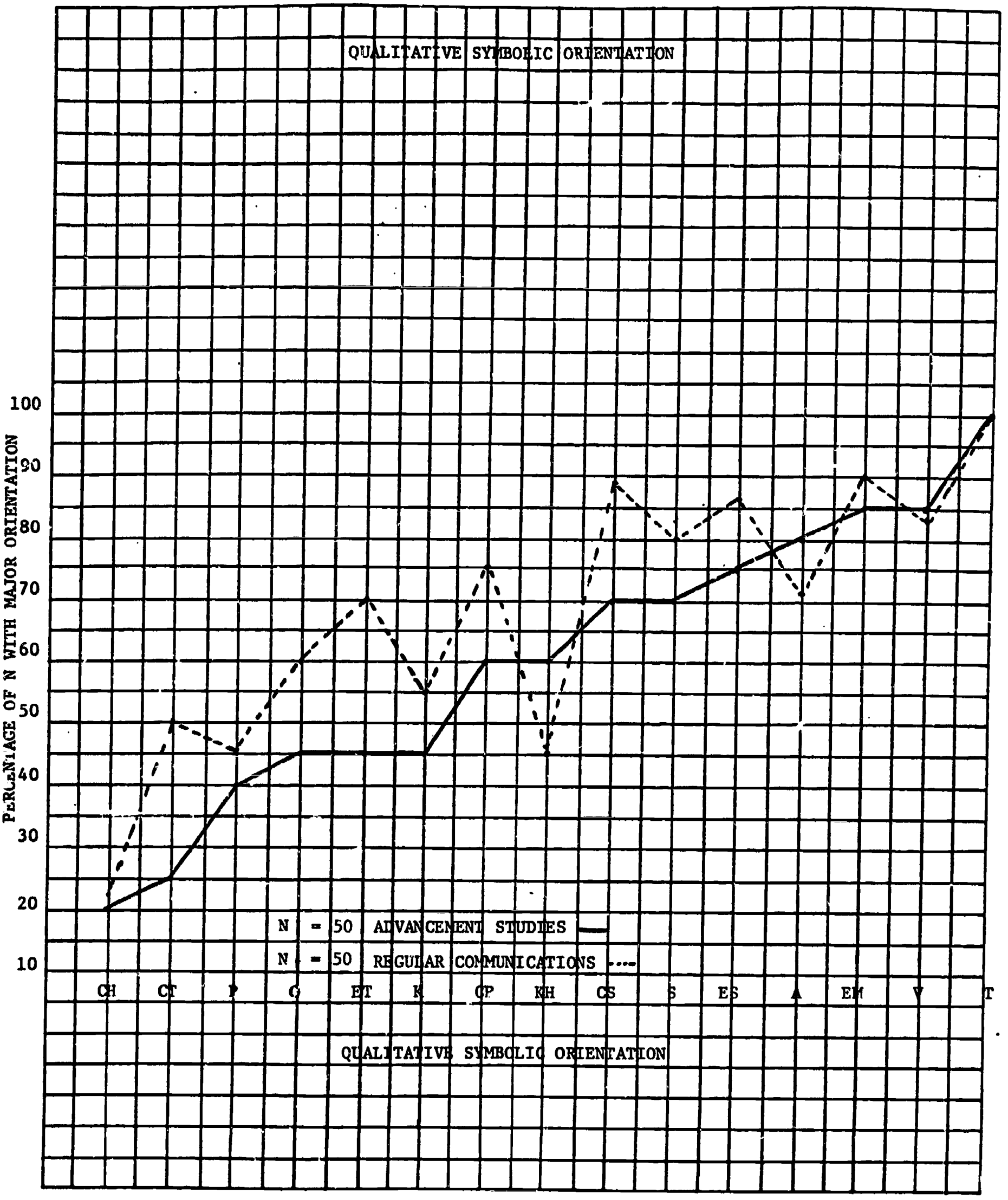
25. D Difference. This pattern suggests a tendency to reason in terms of one-to-one contrasts or comparisons of selected characteristics or measurements. Artists often possess this modality as do creative writers and musicians.

26. R — Relationship. This modality indicates the ability to synthesize a number of dimensions or incidents into a unified meaning, or through analysis of a situation to discover its component parts. Psychiatrists frequently employ the modality of relationship in the process of psychoanalyzing a client.

27. L — Appraisal. The modality of inference employed by an individual who uses all three of the modalities noted above (M, D, and R), giving equal weight to each in his reasoning process. Individuals who employ this modality tend to analyze, question, or in effect, appraise that which is under consideration in the process of drawing a probability conclusion.

28. (K) — Deductive. Indicates deductive reasoning, or the form of logical proof used in geometry or that employed in syllogistic reasoning.





APPENDIX D

Qualitative Symbolic Profile (in rank order) of a regular communication student compared with an advancement studies student:

E-1 Regular Communication Student	E-2 Advancement Studies Communication Student
Qualitative Tactile	Qualitative Tactile
Empathetic	Visual
Synnoetics	Empathetic
Esthetics	Auditory
Savory	Esthetics
Proxemics	Savory
Auditory	Synncetics
Visual	Kinesthetics
Ethical	Proxemics
Olfactory	Kinesics
Kinesics	Ethical
Transactional	Olfactory
Kinesthetics	Proprioceptive
Proprioceptive	Transactional
Histrionic	Histrionic