ABSTRACT

A DESCRIPTIVE STUDY OF DIFFERENCES IN SOCIAL-PSYCHOLOGICAL ATTITUDES BETWEEN STUDENTS IN OPEN AND TRADITIONAL MIDDLE SCHOOL CLASSROOMS

By

Heber Lee Jensen

Open education is an educational approach established in Britain and growing in the United States. Its advocates claim that open education promotes positive self-concept, social sensitivity, and other positive social and psychological attitudes. If this is so, students who have functioned well in an open classroom setting should presumably display characteristics different from their peers in regular classes. The present study is an attempt to determine and measure differences in social-psychological attitudes between students in an open classroom in Kinawa Middle School, Okemos, Michigan, and students in regular classes in the same school.

A review of the literature revealed that while philosophical rationale for open education is abundant, solid research is severely limited. Most research projects failed to reveal significant differences between "open"

and "traditional" models of education but much of the research undertaken in the name of "open education" involves an imprecise or even faulty definition of open education.

The present study makes use of two instruments--an attitude questionnaire and a value survey--in order to determine and measure differences in social-psychological attitudes between open classroom and traditional classroom students in Kinawa Middle School.

The open classroom subjects were all the open classroom or "School Within a School" students in Kinawa. The traditional classroom subjects were randomly selected from the other classes within the school.

The attitude questionnaire and the value survey were administered to all subjects.

On the attitude questionnaire, the open classroom groups were consistently higher on all sub-tests except "authoritarian" on which the traditional classroom groups were consistently higher. The comparison of the combined open classroom groups with the combined traditional classroom groups showed significant differences in all but "social responsibility."

Consistency of difference was not found in the value survey. Comparison of the combined open classroom groups with the combined traditional classroom groups

showed a difference in rank order of more than three places for "imaginative" only.

These results indicate that either the open classroom experience has a significant influence on the social-psychological attitudes of students, or, that the existence of a priori attitude differences results in success and satisfaction with the open classroom. There seems to be a lack of definitive information on which to base a judgment regarding these two possibilities.

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By

Heber Lee Jensen

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CHAPTER I

THE PROBLEM

> The open school, emphasizing differences among children, educates for breadth not depth. It sees knowledge as uncompartmentalized and teachers as problem posers rather than solution givers.
>
> Basil Bernstein

Introduction

Open education is an educational approach established in Britain and growing in the United States. At the heart of the movement is a philosophy similar to that of Dewey and the progressive movement in education--education is not preparation for life, education is life. Children should live more richly now, not at some ill-defined time in the distant future. The child is not an imperfect and unfinished adult but rather, a complete functioning being at his own stage in life. A seven-year old is no more an incomplete twenty-one year old than a twenty-one year old is an incomplete sixty-three year old. Therefore, an educational system should not constantly attempt to fill a child but rather, should strive to help him to realize his potential at his own stage of development. Since talents, interests, potentials and rate of development vary across individuals, a lock-step pattern

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such as our educational system has traditionally utilized, cannot serve the interests of the individual to maximize his potential.

If education is life, the classroom must become a microcosm. The social interactions which take place in the real world cannot be intercepted by unnatural school-imposed regulations, e.g. do your own work, do not talk to your neighbor, work at what the school believes to be important at the time in which it is deemed important.

> The goal of open education is not to make life more comfortable for a chosen few students, but to provide a group of students with the strength and ability to devote their lives to creating a human, just, and equitable society. Therefore, an "open-classroom" . . . will not be a self-indulgent individualistic collection of isolated students so much as a humanist community in miniature. (Kohl, 1973:192)

Open education attempts to serve the individual, and at the same time develop humanistic values of a community nature.

The Problem

If open education creates an environment that is different, students who choose an open classroom setting should presumably display characteristics different from their peers in regular classes. The present study is an attempt to determine and measure differences in social-psychological attitudes between students in an open classroom in Kinawa Middle School, Okemos, Michigan and students in regular classes in the same school. Significant findings here may lead to insights into the effects

of open education on a more general scale.

Kinawa Middle School was selected for the study because of the existence within the school of both traditional and open models of education. Approximately 10 percent of the students attending Kinawa are members of the School Within a School or S.W.S.

> The S.W.S. is an autonomous group of students and learning facilitators who live and learn in an informal setting employing organismic learning theory and having full access and use of the total building and learning facilities of the existing school. (Blom, 1970:10)

The present study makes use of two instruments--an attitude questionnaire and a value survey--in order to determine and measure differences in social-psychological attitudes between open classroom and traditional classroom students in Kinawa Middle School.

The open classroom subjects were all the open classroom or "School Within a School" students in Kinawa. The traditional classroom subjects were randomly selected from the other classes within the school.

The attitude questionnaire and the value survey were administered to all subjects.

Need for the Study

Open education is growing in America. The concept of freedom in education is capturing the hearts and minds of countless educators and parents whose memories of their own education may be far from pleasant. But can it be shown that the open alternative is an improvement over

the organization and methods of the past?

> Despite the mass of information accumulating about open education, there is still virtually no rigorous research concerning its effects upon the development of children's thinking, attitudes, and behavior as compared with the effects associated with more traditional forms of education. (Barth, 1971:117)

Research into the measurable academic achievement of the open classroom group has revealed that there is no significant difference between achievement of these students and that of children in regular classrooms:

> In the spring of 1971, an attempt was made by the Educational Psychology Department of Michigan State University to determine what was happening to students experiencing the informal learning environment of the S.W.S. open classroom. The Stanford Achievement Test Battery was administered to S.W.S. students and students in the traditional school program. Background and previous achievement test data were obtained, and S.W.S. students were matched with other students in the school who daily attended fifty minute classes, five days a week. The SAT revealed that there was no significant difference in achievement between the two groups. (Blom, 1970:9)

Open classroom advocates are convinced that the most significant advantages of open education are in the area of positive attitudes toward self and others which will in turn lead to an increased ability to learn and function effectively in society.

> Measure of curiosity, creativity, and self concept were difficult to make because of a lack of information about the students at the beginning of the program. But the resource people who lived, learned and socialized with these students on a daily basis saw very positive growth in self concept and witnessed many creative tasks by the students. (Blom, 1970:9)

So far, the amount of research conducted to verify these assumptions has been limited. The present study is

an attempt to provide some evidence which may verify or negate the assumptions.

Definition of Terms

Open Classroom

Literature on the subject of open education has proliferated in the past five years or so. However, in spite of the wealth of philosophical writing on the subject, a concise definition of the open classroom is difficult to find. The assumptions stated by Barth are not part of a description or definition of the open classroom, but rather, assumptions concerning learning adhered to by proponents of open education. The director of the open classroom which is the subject of this study, Kinawa Middle School in Okemos, Michigan, defines the open classroom as one in which:

> Students will be given the opportunity to find and develop inner purposes for learning. They will be allowed and encouraged to plan and evaluate the use of their time and use of their school. Such planning will help to develop personal and group decision making, planning skills, responsibility and risk-taking in terms of learning. This environment will also encourage a learner to develop positive feelings about himself, feelings of open-ness, and curiosity. It will also enable him to look at learning experiences realistically and relevantly to his personal life.
> (Blom, 1970:4)

In order to make definition more descriptive, and thereby more explicit, a checklist of openness developed by Judith T. Evans in her study Characteristics of Open Education: Results from a Classroom Observation Rating

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Scale and a Teacher Questionnaire is presented in Appendix A.

The description of open education which emerged as a result of analysis of Evans' Classroom Observation Scale is probably as close as one can come to an operational definition of the open classroom.

> The open classroom teachers, . . . allowed the children more freedom in the use of time, choice of activities, and ways of working than in the traditional classroom. The children worked individually and in small groups at various activities, which often involved the use of manipulative materials. The children used "books" written by their classmates as part of their reading and reference materials, and often children spontaneously looked at and discussed each others' work. The teacher concentrated his time with the children by providing intensive diagnostic help rather than giving whole group instruction. Children were encouraged to use other areas of the building and school yard during school time. The children seemed deeply involved in what they were doing. (Evans, 1971:25)

Traditional Classroom

Probably the most useful method of defining the traditional classroom is to again make use of Evans' Classroom Observation Scale. It would be invalid to think of differences between the open classroom and the traditional classroom in terms of a dichotomy. It is more likely that there is a continuum between more traditional forms of education and the open classroom along which any given classroom would fall.

In light of her research on openness Evans defines the traditional classroom as one in which,

> The teachers were more in control of the learning environment with regard to organizing the child's use of time, materials, space, and the curriculum

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> to be studied. They expected children not to talk while working, nor to move about without asking permission. The physical environment was uniformly arranged so that children could conveniently see the blackboard or the teacher from their desks. The teacher stressed keeping all children within his sight so that he could make sure they were doing what they were supposed to do. In general, the children were supposed to use standardized curriculum materials and the teacher gave academic achievement a top priority. Testing was used by the teachers for grouping the children and for grading them in comparison with their peers. (Evans, 1971:25)

Open-Space School

It is evident in reviewing the literature and in discussing open education with others that there is some confusion between the open school, or open classroom, and the open space school. Clarification of terms is indicated here.

According to Norman Heimgartner (1972), an open space clasroom is an organizational scheme, not an instructional device. The salient features are: no interior walls, ungraded, children have the opportunity to interact with children of different age groups and different teachers. However, it is not necessary that open-classroom characteristics be present here. A very traditional curriculum may be followed in the open-space setting.

Non-graded School

Another type of education often confused with the open school is the non-graded school. The non-graded school shares features with the open classroom and yet there are important differences.

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The non-graded school, like the open classroom has abolished the lock-step grading system in favor of a more individualistic situation as recommended in the Report of the President's Commission on National Goals.

> Our devotion to equality does not ignore the fact that individuals differ greatly in their talents and motivations. It simply asserts that each should be enabled to develop to the full, in his own style and to his own limit. Each is worthy of respect as a human being. This means that there must be diverse programs within the educational system to take care of the diversity of individuals; and that each of these programs should be accorded respect and stature.
> (President's Commission, 1960:81)

However, in place of grades, the non-graded schools have substituted "phases of learning" in which students are placed on the basis of achievement.

> The difference, then, is that in the graded school students are grouped together by age; in the non-graded school, the students who are grouped together are at approximately the same stage of learning. This is decidedly not ability grouping, which is based upon intelligence potential. There are many factors besides native intelligence which determine the rate of student progress, but achievement is superior to any other criterion.
> (Brown, 1963:35)

> Students performing at lower levels of efficiency are guided into a cluster-group of basic or remedial education in the area in which they are deficient.
> (Brown, 1963:54)

This differs significantly from the open classroom where group work is arranged by choice and mutual interests. No attempt is made to structure and sequence a pre-conceived curriculum.

Limitations

The following are some of the limitations which would have to be considered in interpreting the results of this study and in considering recommendations for further research:

1. The study involved only one school, Kinawa Middle School, and only the students enrolled at the time of the study. The project was only in its second year and possibly the study was made prematurely during a process of maturation. Therefore, inferences made from this study are limited to the population and the circumstances of the study.

2. The instruments available for measuring social-psychological attitudes at the time of the study were limited. Most of the instruments were developed several years ago and their reliability and validity studies were weak. Perhaps it is not possible to measure attitudes accurately by means of such instruments. Obviously, we will need many new devices to more accurately describe nonverbal behavior and to quantitatively assess social-psychological attitudes. Perhaps some form of observational technique would be more appropriate and revealing.

3. The study did not provide clear evidence that the measured social-psychological attitudes were the result of the open classroom experience and not already present in students who chose the open classroom.

4. The choice to attend and the decision to remain in the open classroom was made by both students and parents, therefore the measurement of students' attitudes may be insufficient.

5. The instruments used were not validated for subjects of middle school age.

Overview of the Study

In Chapter II the relevent literature is reviewed in terms of open classroom philosophy and related research. Chapter III contains a description of the study--selection of subjects, instruments used, and the treatment of the data. In Chapter IV the data is analyzed and interpreted. Conclusions, discussion and implications for further research are presented in Chapter V.

CHAPTER II

RELATED LITERATURE AND RESEARCH

> During the past several years, American interest in open education has grown tremendously. While five years ago knowledge of this classroom was practically non-existent, now nearly every American teacher has read at least one article, somewhere, that describes its operational features. To express this explosion more statistically, in 1968 only thirty articles were published in the United States that even mentioned what was going on in England; two years later there were over three hundred. (Rathbone, 1971:xi)

This "explosion" of literature falls into two main classes: philosophical rationale for open education and research attempting to describe measurable results of such education. In spite of the recent emergence of open education, there is considerable philosophical and even descriptive literature on the subject; however, solid research is severely limited.

Philosophical Literature

Philosophical writings may be classified into four general types:

1. Criticism of traditional education
2. Historical outlines of the open education movement
3. Philosophy of learning
4. Description of open classroom environments.

The following quotations are chosen as samples from the wealth of criticism of traditional education:

> I believe that if a child, no matter what his background, can succeed in school, he has an excellent chance for success in life. If he fails at any stage of his educational career--elementary school, junior high, high school, or college--his chances for success in life are greatly diminished. (Glasser, 1969:5)

> . . . in the vast majority of our schools, at all educational levels, we are locked into a traditional approach which makes significant learning improbable if not impossible. When we put together in one scheme such elements as a prescribed curriculum, similar assignments for all students, lecturing as almost the only mode of instruction, standard tests by which all students are externally evaluated, and instructor-chosen grades as the measure of learning, then we can almost guarantee that meaningful learning will be at an absolute minimum. (Rogers, 1970:5)

Rathbone discusses the historical aspects of open education in America:

> . . . The Plowden Report was released in England at the very end of 1966; in the United States, Joseph Featherstone's three New Republic articles were published in the fall of 1967. Both called immediate attention to the fact that open education classrooms were exciting places in which young children can live and learn.
>
> However, the quality of attention focused on an issue is often more important than the sheer number of articles written about it; and here one must acknowledge the special roles played in the United States by the Elementary Science Study of Newton, Massachusetts, and the National Association of Independent Schools of Boston. ESS curriculum designers, though from the mid-1960's aware of what was happening in England, were apparently too tough-minded and independent to accept the open education approach uncritically. Instead, they began testing its ideas against their own, incorporating what seemed reasonable and relevant, rejecting or retesting the rest. Given their seriousness of purpose, they found little time to sing the praises of open education, and this no doubt delayed its popularization. There was an evident advantage to this delay, however, for when the stampede finally did come, it meant that there was a

> small group of knowledgeable men and women who had already worked through the problems of implementation - at least in one setting - and who were now in a position to assist others elsewhere. (Rathbone, 1971:xi)

Roland S. Barth has organized a number of covert assumptions in an attempt to make explicit the working philosophy of most educators who espouse open education.

> Though I realize not all of these assumptions would be acceptable to every advocate of open education, they do, I believe, reflect the thinking of most. In fact, I have "tested" these assumptions with over a dozen British primary teachers, headmasters, and inspectors at an in-service workshop for teachers offered by the Leicestershire Advisory Centre in May, 1968, and with a number of American proponents of open education at EDC and elsewhere. To date, although many qualifications in language have been suggested, there has not been a case where an individual has said of one of the assumptions, "No, that is contrary to what I believe about children's learning." (Barth, 1971:118)

The following is Barth's list of assumptions:

1. Children are innately curious and display exploratory behavior quite independent of adult intervention.

2. Exploratory behavior is self-perpetuating.

3. The child will display natural exploratory behavior if he is not threatened.

4. Confidence in self is highly related to capacity for learning and for making important choices affecting one's learning.

5. Active exploration in a rich environment offering a wide array of manipulative materials will facilitate children's learning.

6. Play is not distinguished from work as the predominant mode of learning in early childhood.

7. Children have both the competence and the right to make significant decisions concerning their own learning.

8. Children will be likely to learn if they are given considerable choice in the selection of the materials they wish to work with and in the selection of the questions they wish to pursue with respect to those materials.

9. Given the opportunity, children will choose to engage in activities that will be of high interest to them.

10. If the child is fully involved in and having fun with an activity, learning is taking place.

11. When two or more children are interested in exploring the same problems or the same materials, they will often choose to collaborate in some way.

12. When a child learns something that is important to him, he will wish to share it with others.

13. Concept formation proceeds very slowly.

14. Children learn and develop intellectually not only at their own rate but in their own style.

15. Children pass through similar stages of intellectual development - each in his own way, at his own rate, and in his own time.

16. Intellectual growth and development take place through a sequence of concrete experiences followed by abstractions.

17. Verbal abstractions should follow direct experience with objects and ideas, not precede them or substitute for them.

18. The preferred source of verification for a child's solution to a problem comes through the materials he is working with.

19. Errors are necessarily a part of the learning process; they are to be expected and even desired for they contain information essential for further learning.

20. Those qualities of a person's learning that can be carefully measured are not necessarily the most important.

21. Objective measures of performance may have a negative effect upon learning.

22. Evidence of a child's learning is best assessed intuitively, by direct observation.

23. The best way of evaluating the effect of the school experience on the child is to observe him over a long period of time.

24. The best measure of a child's work is his work. (Barth, 1971:118)

Descriptive research is too lengthy to relate in detail but one of the best accounts is found in the article "Two Classrooms" where Anthony Kallett describes a successful traditional classroom in the United States (Miss Jones' class) and a fine open classroom in Great Britain (Miss Smith's class).

> There is little question in my mind that in many aspects of their work the children in Miss Smith's class were achieving results that surpassed those of the children at Meadow. Most of the six-year-olds who had been in school two or three terms were writing copiously and often quite creatively, almost always illustrating what they wrote - or writing about what they drew. They wrote stories, poems, even little plays. Indeed, I would judge that the writing of many of these children surpassed in both quantity and quality that being done by the children two years older at Meadow. An important reason, of course, was that they were writing when they chose and about subjects they chose and that they were writing for other children, not just the teacher, to read.
>
> . . . I have little doubt which provided more suitable conditions for children to explore and grow, which provided children with more scope for important learning, which manifested in everything that went on greater respect for and acceptance of the uniqueness of each child. (Kallett, 1971:15)

Probably the most concise description of the open classroom may be gained by a careful study of the fifty features examined by the Evans' checklist provided in Appendix A.

An extensive list of philosophical books, articles and bibliographies is provided in the Bibliography. Since the focus of the study is on empirically based research, such research will constitute the main thrust and bulk of this chapter.

Open Education Research

Terence P. Kohler studied the relationship between self-concept and open education and reported his research in a paper--"A Comparison of Open and Traditional Education: Conditions that Promote Self-Concept"--presented at the American Educational Research Association Annual Meeting, March 1, 1973.

The study tests hypotheses derived from the proposition that open education promotes self-concept. The stated objectives are:

1. To examine differences in self-concept for Ss experiencing Open and Traditional Education.

2. To determine if differences in self-concept exist between males and females in Open and Traditional Education.

3. To determine if differences in self-concept exist between schools within a set of Open Schools and within a set of Traditional Schools.

4. To determine if a relationship exists between the rated degree of openness of a school and the measured self-concept of the Ss.

5. To identify conditions that exist in Open and Traditional Schools that promote growth in self-concept.

Instrumentation: Three instruments were used to collect the data for this study. One measured self-concept, while the other two rated classrooms for

degree of openness, one being an observation scale, the other a teacher questionnaire.

Measure of Self-Concept: The method used to measure students' self-concept was the Sear's Self-Concept Inventory. The instrument is a group administered questionnaire. It is designed to cover ten components of self-concept: Physical ability, mental ability, social relations with same sex, social relations with opposite sex, attractive appearance, social relations with teacher, work habits, social virtues, happy qualities, and school subjects. The child's (1) satisfaction with himself in each area, (2) his prediction as to whether he will or will not improve, and (3) his self rating in comparison to other members of the class are readily obtainable from an approximately one hour testing session per class. (The instrument was originally developed by Pauline Sears: for The Effects of Classroom Conditions on the Strength of Achievement Motive and Work Output on Elementary School Children [Stanford University Press, 1963].

Rating Schools as to Degree of Openness: The methods used to rate schools as to degree of openness were the Walberg-Thomas Open Education Observation Scale and Teacher Questionnaire. (Walberg and Thomas, 1972:197)

As a result of Kohler's study, no significant difference was found between Open and Traditional Education in any of the six "areas" of self-concept identified by the Sear's Self-Concept Inventory.

Kohler's conclusion is as follows:

> This author believes Open Education itself will not promote self-concept, but the possibility for growth is better in the Open setting than in the Traditional one. The four conditions thought to promote growth in self-concept seem to be part of the definition of Open Education but relatively removed from the central processes of Traditional Education.

Kohler's conclusion does not follow from his research results. He seems to be following an intuitive optimism often manifested by those involved in open education in the absence of measured evidence of its benefits.

John Sackett in his study, "A Comparison of Self-Concept and Achievement of Sixth Grade Students in an Open Space School, Self-Contained School and Departmentalized School" (Sackett, 1971) examined the question:

> Does the sixth grade student self-concept and achievement in an open space school differ significantly from the sixth grade student self-concept and achievement in the self-contained school and from that of the sixth grade self-concept and achievement in a departmentalized school?

He defines self-concept as:

> The evaluation which the individual makes and customarily maintains with regard to himself, it expresses an attitude of approval or disapproval and indicates the extent of which the individual believes himself to be capable, significant, successful and worthy. It is synonomous with self-esteem.

Sackett used the Lorge-Thorndike I.Q. measure and the Iowa Tests of Basic Skills to determine intelligence and achievement and the Self-Esteem Inventory developed by S. Coppersmith at University of California, Davis, to assess self-concept. He discovered that both the achievement scores and the self-concept scores were significantly lower for the open space students.

This piece of research is included in the present study because it is an attempt to measure personal characteristics of students in an alternative educational plan. However, Dr. Sackett makes no mention of curriculum or teaching-learning methods in his report. He includes seven pages of architectural drawings of the open-space schools he studied but is apparently not interested in the type of "openness" implicit in the Evans' checklist.

Leo Remacle also attempted to measure social-psychological attitudes of students in alternative educational plans in his doctoral study, "A Comparative Study of the Differences in Attitudes, Self-Concept and Achievement of Children in Graded and Nongraded Elementary Schools" (1970).

Remacle, like the author of the present study, realizes that innovations in education are often supported more by feelings than by solid research.

> Much of the literature on the nongraded school consists of reports that there is an improved atmosphere, that fear of failure is removed, that tensions in children are reduced, that achievement is greater, and that teachers are more aware of individual differences. However, most of these reports are based on opinion rather than research. (Remacle, 1970:3)

Remacle continues, quoting Goodlad:

> "There is a dearth of specific data, educated guesses, or research evidence on the effect of any new organizational structure. Very little is known about what happens when a school moves from graded to nongraded. Reports from many so-called nongraded schools seem to be characterized more by a desire to vindicate their decision than by presentation of objective evidence - even at a low level of sophistication - that would cast light on the effectiveness of the new plan of organization." (Goodlad, 1965:57)

Remacle, through his study, sought to provide answers to the following questions:

1. Is there a significant difference in the achievement of students in graded and nongraded classes?

2. Is there a significant difference in the school morale of students in graded and nongraded classes?

3. Is there a significant difference in self-concept between students in graded and nongraded classes?

The Iowa Test of Basic Skills was used for the measurement of reading, work-study, language, and arithmetic skills.

In order to assess school morale, Remacle used The School Morale Scale developed by Wrightsman,Nelson and Taranto (1968).

Self-concept was measured by the Index of Adjustment and Values designed by Bills (1951).

Analysis of the data indicated the following results:

1. That there was no statistically significant difference in fifth and sixth grade students in achievement in vocabulary, reading, language and work-study skills except in sixth grade work-study skills where the difference was favorable for nongraded sixth grade students.

2. That there was no statistically significant difference in any of the seven subscales of school morale for sixth grade students in nongraded classes. That there was a statistically significant difference in all seven subscales of school morale for fifth grade students. All of these significant differences favored the students of the nongraded school.

3. That there was no statistically significant difference in the fifth or sixth grade students in self-concept, ideal self, and discrepancy between self-concept

and ideal self between the graded and nongraded classes.

Remacle's study does not support the claims of superiority made for the nongraded classroom. Again, this study does not directly pertain to the previously defined open classroom but was reviewed because of the author's attempts to measure social-psychological attitudes in an alternative educational environment.

Alan F. Sewell and Allan W. Dornseif compared open and traditional education at the junior high level in their study: "Controlled Multivariate Evaluation of Open and Traditional Education at the Junior High School Level." They presented their findings in a paper presented at the annual meeting of the American Educational Research Association in New Orleans in March 1973.

They conducted a year-long study to evaluate the relative educational outcomes of open and traditional education in four areas: academic achievement, personal growth, social development and attitudes.

Sewell and Dornseif's description of their "open" classroom leaves some question as to its "openness" according to the definition implicit in the Evans' checklist and being employed in the present study.

> The day is organized around the four major disciplines in the morning with the amount of time devoted to each determined cooperatively by the teachers. Projects and modified contract assignments are the basic activities of students in all subjects except mathematics, in which an individualized skill development materials kit is used.

> During the afternoon, or about one-third of the school day, the students are scheduled into other school programs such as physical education, home economics, etc.

Indeed, the authors themselves show limited confidence in their "open classroom" designation:

> Even a cursory review of the literature reveals that "open education" and "open classroom" are highly ambiguous terms. In comparison to Neill's "Summerhill" concept of open education this program more closely resembles traditional education. . . . Whether the present program is indeed "open education" and whether this study is a genuine evaluation of "open education" are undoubtedly fit questions for debate.

The study revealed no significant differences on any of the variables measured. The authors concluded:

> It is the opinion of the investigators that open education has yet to be subjected to rigorous analysis. While the concepts of open education appear at the verbal level to differ significantly from those of traditional education, it may well be that in terms of performance outcomes, these two methodologies do not truly differ.

Sewell and Dornseif, having admitted, and rightly so, that their experimental program is not necessarily "open" but could in some lights be seen as closer to "traditional" have no grounds for hinting that the two methodologies "do not truly differ" since they, in effect, have not compared the two methodologies in their study.

James McPartland investigated the transition from an open elementary school to a traditional junior high school in his study, Student Reactions to the Transition from Open Elementary School to Junior High School: A Case Study, John Hopkins University, Baltimore, Md., October 1972.

McPartland reports a case study of forty-seven students drawn from an open education and a traditional school in which their relative adjustment to a traditional junior high school was considered. The investigation revealed no significant differences between students from the two schools in adjustment to junior high school as measured by grades, attendance, discipline and satisfaction with school.

At no point in the study does McPartland define open education or justify the use of the term in connection with the school system in question.

One point of interest emerges from McPartland's study. He studied the relationship between students' preference for open school and an index of their family style. He found positive correlations which imply that students will be more likely to prefer open school organization when they are accustomed at home to more flexible rules governing their behavior and a more influential role in the decision making process.

Summary

The survey of the literature conducted in relationship to the present study reveals that:

1. An extremely limited amount of research deals with measured results of open classroom education.

2. Much research undertaken in the name of "open-education" involves an imprecise or even faulty definition of open education.

The present study is an attempt to assist in alleviating this serious lack of research and to provide information upon which interested educators may make decisions concerning implementation of open classroom projects.

CHAPTER III

PROCEDURE AND DESIGN

Introduction

The present study is an attempt to determine and measure differences in social-psychological attitudes between students in an open classroom in Kinawa Middle School, Okemos, Michigan and students in regular classes in the same school.

Kinawa Middle School was selected for the study because of the existence within the school of both traditional and open models of education. The open classroom in Kinawa is called S.W.S., or "School Within a School."

> The S.W.S. is an autonomous group of students and learning facilitators who live and learn in an informal setting employing organismic learning theory and having full access and use of the total building and learning facilities of the existing school.

The S.W.S. is a complex of four rooms which are divided into a social room, a quiet room, a seminar or group learning room, and a science laboratory. Approximately seventy students ages eleven, twelve, and thirteen are assigned to this area four hours of their day. During these four hours they utilize these areas, go to other parts of the building, or go outside to pursue their projects and activities. For the remainder of the day, the students join the other students in the school for lunch, physical education, and electives they have chosen from areas such as: drama, typing, media, and teacher assistantships. While in the S.W.S. complex, the students can choose to interact with each other, the three assigned learning facilitators, or community resource people who visit daily. Interest groups are formed and activities are planned to accommodate the

> needs of these students. Students are responsible for setting goals, learning activities, self-control, motivation, evaluation, and use of time and materials. They are responsible to all the school rules and policies as outlined in the student government handbook.
>
> This "open-informal" learning environment is a voluntary program open to any student who, with parental permission, understands, supports, and desires to participate. (Blom, 1970:10)

The categories "traditional" and "open classroom" were determined applicable by analysis according to Evans' Classroom Observation Rating Scale.

Evans' rating scale has a possible total score of two hundred (four possible points on each of fifty items). The American open schools which she studied showed a mean of 163.17 as compared with a mean of 160.80 for the British open schools. Application of the Evans Classroom Observation Scale in an informal way by this researcher to the open classroom in Kinawa Middle School resulted in a score of 185.

The most extremely structured classroom could score no less than fifty on the rating scale (one point for each of fifty items). The traditional classrooms in Evans' study showed a mean of 117.46. The three control groups in Okemos scored 120, 116, and 110 and thus fell within close range of Evans' group.

Instruments

Two separate instruments were utilized to compare the social psychological attitudes of students in S.W.S.

with those of students in traditional classrooms. (The complete two-part questionnaire is provided in Appendix B.)

The final instruments were constructed from a battery of the original instruments by conducting a pilot study and utilizing item analysis to reject items and instruments which did not discriminate between the two groups.

The instruments for the pilot study were selected on affective topics that open education claims to stress:

1. Environmental satisfaction (Schulman, 1972)
2. Personal satisfaction (Schulman, 1972)
3. Self-esteem scale (Robinson and Shaver, 1969: 100)
4. Personal competence (Robinson and Shaver, 1969: 104)
5. Acceptable to others (Robinson and Shaver, 1969:541)
6. Social responsibility (Robinson and Shaver, 1969:385)
7. Alienation (Robinson and Shaver, 1969:208)
8. Authoritarian (Robinson and Shaver, 1969:230)
9. Value survey (Robinson and Shaver, 1969:467)

Details of the above instruments are supplied on pages 29 nd 30.)

The subjects for the pilot study were all the ninth rade students who had attended S.W.S. the previous year nd students from traditional classrooms who were randomly

selected by computer for Dr. Schulman's evaluation.

After the item analysis, the instruments on "self-esteem" and "alienation" were rejected because there was very little difference shown.

The instruments designed to test "environmental satisfaction," "personal satisfaction," and "acceptable to others," were selected and used unchanged as sub-tests in the final instrument.

For "personal competence," "social responsibility," and "authoritarian," the five best discriminating items were selected from the eight items in the original instruments. The five selected items were used as sub-tests in the instrument constructed for the present study.

For the Value Survey, the twelve items from the original eighteen that discriminated best were used and treated as a separate instrument.

The attitude questionnaire and the value survey were presented to the students as one task containing thirty-one items without labels or subdivisions. However, for research purposes the attitude questionnaire and the value survey are treated as separate instruments due to the analytical treatment of the results.

The attitude questionnaire utilized a four-point Likert scale for which means could be calculated and compared statistically.

The value survey required a rank ordering which does not lend itself to statistical treatment.

Attitude Questionnaire

The attitude questionnaire was designed to ascertain the student's feelings about himself and his environment. Sub-tests of this questionnaire were taken from various sources:

1. Environmental satisfaction
2. Personal satisfaction

The above two items were part of an instrument developed by Dr. L. Schulman as part of Michigan State University's evaluation of S.W.S. They are designed to determine the student's satisfaction with the S.W.S. environment and with himself as a person.

3. Personal competence

This test was developed by A. Campbell and published in the American Voter in 1960.

> Personal efficacy is a feeling of mastery over the self and the environment. . . . The efficiency of ego functioning bears directly on the way in which the individual can or must allocate his energies in dealing with the environment. Where such functioning is chaotic, more energy is drained off in the maintenance of the psychological economy and less remains to initiate and create beyond the immediate emotional necessities. Where the ego is strong, however, the individual can maintain a higher level of involvement in these secondary areas of behavior.
>
> (Campbell et al., 1960:518)

According to the authors of the test "consistent replications of this pattern in later studies supports the construct validity of the Personal Efficacy Scale" (Robinson and Shaver, 1969:102).

4. Acceptability to others

This sub-test is taken from W. F. Fey published in Journal of Abnormal and Social Psychology and is intended to ascertain the student's feelings concerning his acceptability to other people.

5. Social responsibility

"This scale attempts to assess a person'a traditional social responsibility, an orientation toward helping others even when there is nothing to be gained from them" (Robinson and Shaver, 1969:383). The scale is published in Berkowitz and Lutterman, "The Traditionally Socially Responsible Personality," Public Opinion Quarterly, 1968.

6. Authoritarian aggression

This sub-test is taken from the California F Scale which was "designed to measure ethnic prejudice and 'prefacist' tendencies simultaneously, without mentioning minority groups by name. Both of these characteristics come under the heading of authoritarian or 'implicit antidemocratic' trends in a personality" (Robinson and Shaver, 1969:224). The California F Scale is published in Adorno et al., The Authoritarian Personality, 1950. Only one sub-test of the California F Scale was utilized in the present study, authoritarian aggression: the tendency to be on the lookout for, and to condemn, reject and punish people who violate conventional values.

Tne Value Survey

The value survey was constructed by Rokeach and published in Beliefs, Attitudes and Values, 1968. The instrument assesses a respondent's hierarchical arrangement of instrumental values--preferable modes of conduct. Subjects rank order alphabetically listed values to indicate the relative importance of each value to themselves. "Test - retest reliabilities after seven weeks are reported in the .70's for form D, the final version" (Robinson and Shaver, 1969:463).

Selection of Subjects

Open classroom subjects.--All the students in the open classroom, S.W.S., in Kinawa were used in the study. The group consisted of twenty-six sixth graders, twenty-three seventh graders and twenty-two eighth graders with approximately equal numbers of boys and girls.

Traditional classroom subjects.--A random sample of students was selected from the other classes within the school. One half of the students from each of six classes were used (two classes from each grade), totalling twenty-five sixth graders, twenty-four seventh graders and twenty-three eighth graders with approximately equal numbers of boys and girls.

Design

The present study is an accumulation of data that is descriptive rather than experimental.

> Descriptive research describes and interprets what is. It is concerned with conditions or relationships that exist; practices that prevail; beliefs, points of view, or attitudes that are held; processes that are going on; effects that are being felt; or trends that are developing.
>
> The process of descriptive research goes beyond mere gathering and tabulation of data. It involves an element of interpretation of the meaning or significance of what is described. Thus, descriptive is often combined with comparison or contrast, involving measurement, classification, interpretation, and evaluation. (Best, 1959:102)

Treatment of Data

The present study compares open classroom and traditional classroom subjects on both the attitude questionnaire and the value survey in the following ways:

1. Open classroom subjects with traditional classroom subjects by grade.

2. All open classroom subjects with all traditional classroom subjects.

3. Returning open classroom subjects with not returning open classroom subjects. Because the eighth grade subjects did not have the choice to return to the open classroom this group consisted of sixth and seventh graders only.

4. First year open classroom subjects with second year open classroom subjects.

5. Sub-tests across grades for all subjects.

The results of the attitude questionnaire were analyzed by calculating means for each group and determining

significant differences between means through the use of the t test.

For the value survey each instrumental value received a numerical score calculated by assigning the score of twelve to the value chosen as most important by each student, eleven for second choice, etc. It was then possible to use these scores to calculate means for each group for each value. The means were used to determine the rank order for the groups.

Summary

The present study is a descriptive study designed to determine and measure differences in social-psychological attitudes between students in an open classroom in Kinawa Middle School, Okemos, Michigan and students in regular classes in the same school.

Two instruments--an attitude questionnaire and a value survey--were constructed from several existing instruments by means of a pilot study which determined the best discriminating items.

Open classroom and traditional classroom subjects were tested by means of the two instruments.

The results of the attitude questionnaire were analyzed statistically through the use of the t test to compare means.

The value survey was examined by comparing the relative rank orderings of the values by each group.

This analysis is presented in Chapter IV.

CHAPTER IV

ANALYSIS OF DATA

The results of the attitude questionnaire and the value survey are organized and presented in this chapter in four sections: attitude questionnaire by sub-test, attitude questionnaire by group, value survey by group, and value survey by sub-test.

Attitude Questionnaire--Comparison by Sub-test

This section presents the results from the various groups on each of the six sub-tests separately. It includes tables and graphs containing information on means, range, standard deviation, t statistics and statistical significance.

Each of the sub-tests (environment, satisfaction, etc.) contain five questions using a four point Likert scale. Integral values were assigned to each scale point--1 for Strongly Disagree, 2 for Disagree, 3 for Agree and 4 for Strongly Disagree--giving a possible twenty points maximum for each sub-test. Total scores were obtained by simple summation. Most of the statements were worded positively but some were worded negatively to avoid

acquiescence. In the case of negative wording the numerical value was reversed. Totals were obtained for each student for each sub-test. The means were obtained by averaging the total raw scores of each group of students for each sub-test.

Environment

The "environment" sub-test was designed to measure the attitudes of the subjects toward their school environment.

The means, differences in means, t test statistics, and confidence intervals are shown in Table 1.

The bar graph (Figure 1) provides a visual display which clearly illustrates the differences between the groups. The vertical (x) axis shows means to the nearest tenth and the horizontal (y) axis shows open classroom (O) and traditional classroom (T) groups--sixth, seventh, eighth grades and their totals; as well as returning (R) - not returning (NR); and one year - two year open classroom groups. Asterisks above each pair of bars mark groups in which the differences are statistically significant. Confidence levels for these significant differences may be found in Table 1.

In all three grades, the open classroom subjects were measured as more satisfied with their environment. The difference between groups was not statistically significant for the sixth grade subjects but the seventh

Table 1

Attitude Questionnaire by Sub-test--Environment

Groups	Means	S.D.	T test	Confidence
6 - O	14.1923	2.8151	.6056	----
6 - T	13.8000	1.4967		
7 - O	15.1739	2.0568	4.6628	.001
7 - T	13.4583	1.8480		
8 - O	15.5909	1.3369	6.1158	.001
8 - T	13.1200	1.3659		
Total - O	14.9437	2.2759	5.4317	.001
Total - T	13.1351	1.6711		
R	16.2692	1.6067	6.3168	.001
NR	12.8261	2.1193		
1 Yr.	15.5217	1.2809	.5520	----
2 Yrs.	15.2273	2.1306		

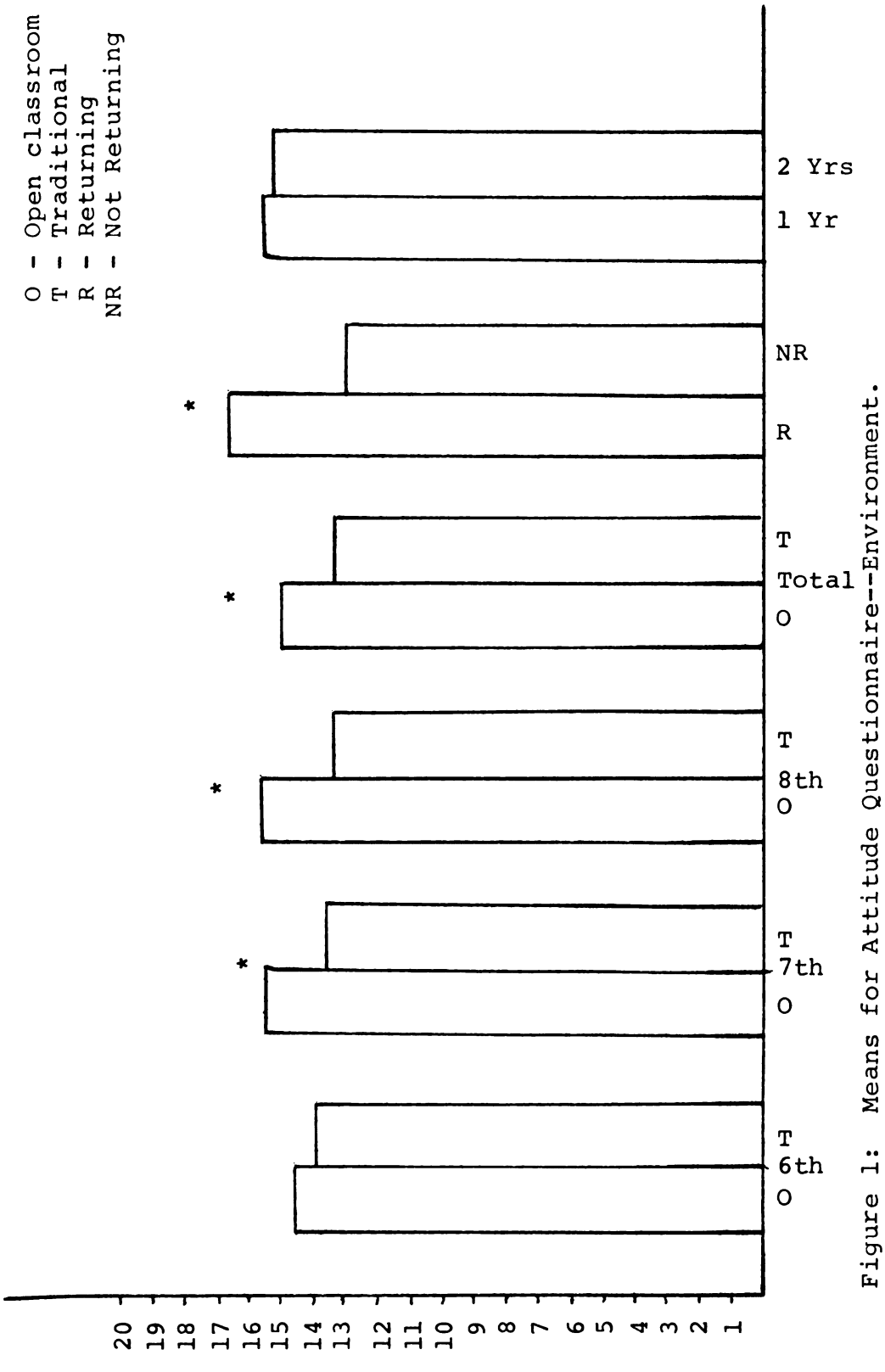

Figure 1: Means for Attitude Questionnaire--Environment.

and eighth grades and the total open classroom group did show significant differences at the .001 level of confidence.

The open classroom students who were planning to return to the S.W.S. for the following year showed a significantly higher satisfaction with their school environment than did those students not planning to return. In fact, this difference was larger than the difference between any other pair of groups in the entire study--significant to the .001 level of confidence.

There was a slight difference in favor of the students who had been in open classroom one year over those in their second year. However, this difference was not significant and both first and second year groups showed means of over fifteen, which reveals a high degree of satisfaction with environment--much higher than those of any of the traditional groups.

Figure 2 depicts the ranges and means for the various groups on the "environment" sub-test. There seems to be no consistent pattern in ranges.

Satisfaction

This sub-test was designed to measure the subject's satisfaction with himself and the things around him.

Table 2 provides means, differences between means, t test statistics and confidence intervals for the various groups.

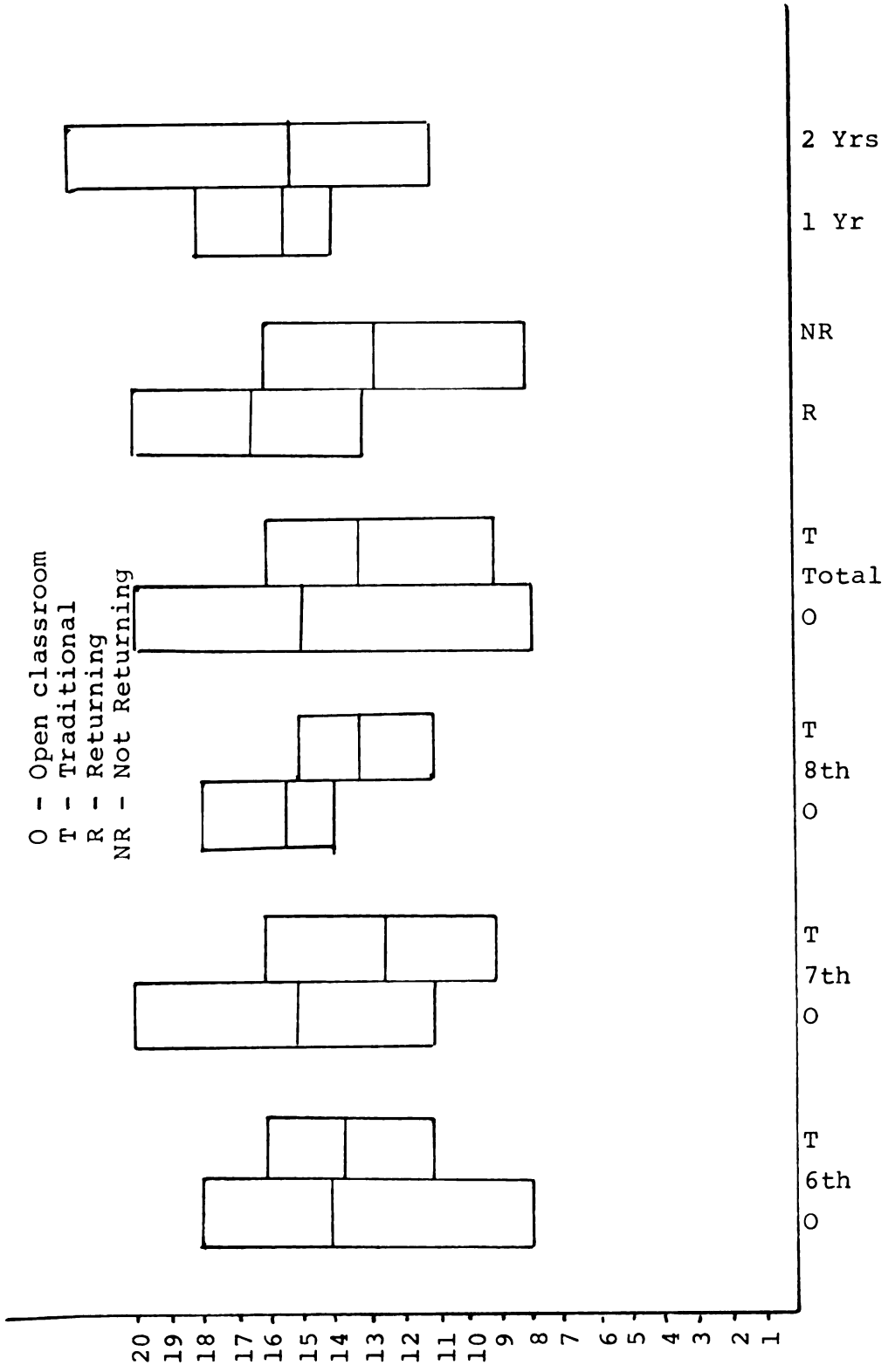

Figure 2: Ranges and Means for Attitude Questionnaire--Environment.

Table 2

Attitude Questionnaire by Sub-test--Satisfaction

Groups	Means	S.D.	T test	Confidence
6 - O	14.1923	2.0943	.6055	----
6 - T	13.8400	1.9734		
7 - O	14.7391	1.6995	2.8757	.01
7 - T	12.7917	2.7077		
8 - O	14.5909	1.7493	3.9100	.001
8 - T	12.0800	2.4482		
Total - O	14.4930	1.8830	4.2764	.001
Total - T	12.9054	2.4996		
R	15.2308	1.6007	3.2541	.01
NR	13.5652	1.9071		
1 Yr.	15.2174	1.8405	2.2637	.01
2 Yrs.	14.0909	1.3787		

The bar graph (Figure 3) illustrates the differences more clearly. Again the open classroom subjects in all three grades were revealed to be more satisfied than the subjects in the traditional classrooms. The differences were significant for the seventh and eighth grades as well as for the total group at the .01, .001, and .001 levels respectively.

Those students planning on returning were significantly more satisfied (.01) than those not planning to return.

The results show the first year open classroom students more satisfied with themselves and their situation than the second year open classroom students. The difference was statistically significant at the .01 level, however, the second year students measured higher on satisfaction than any of the students in the traditional classrooms.

Figure 4 presents the ranges and means for all groups on the "satisfaction" sub-test. There was a greater range of satisfaction in the traditional classroom students than that evidenced by the open classroom students. A much greater range of satisfaction was revealed by the not returning group than by those students planning on returning to the S.W.S. the following year.

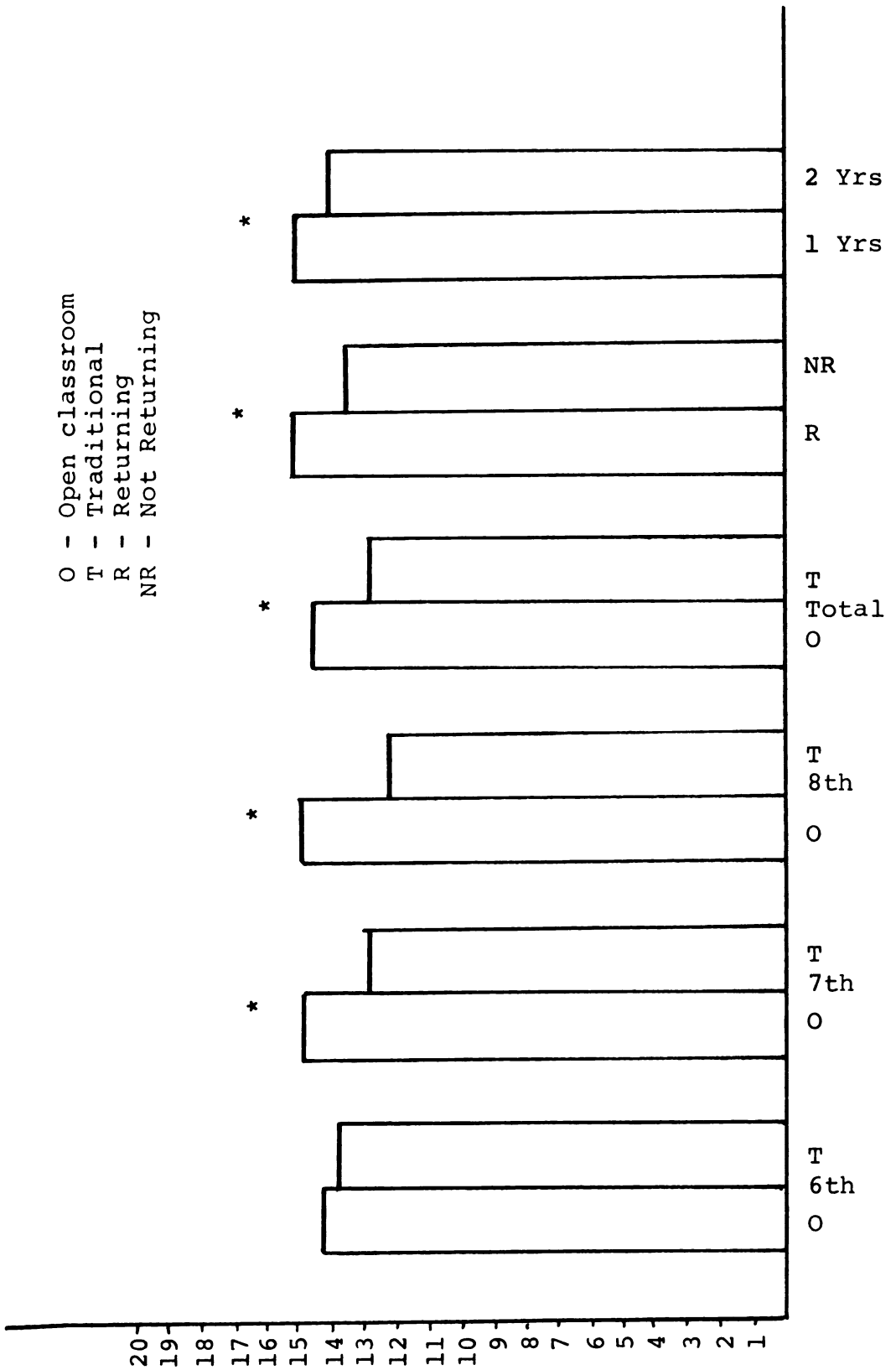

Figure 3: Means for Attitude Questionnaire--Satisfaction.

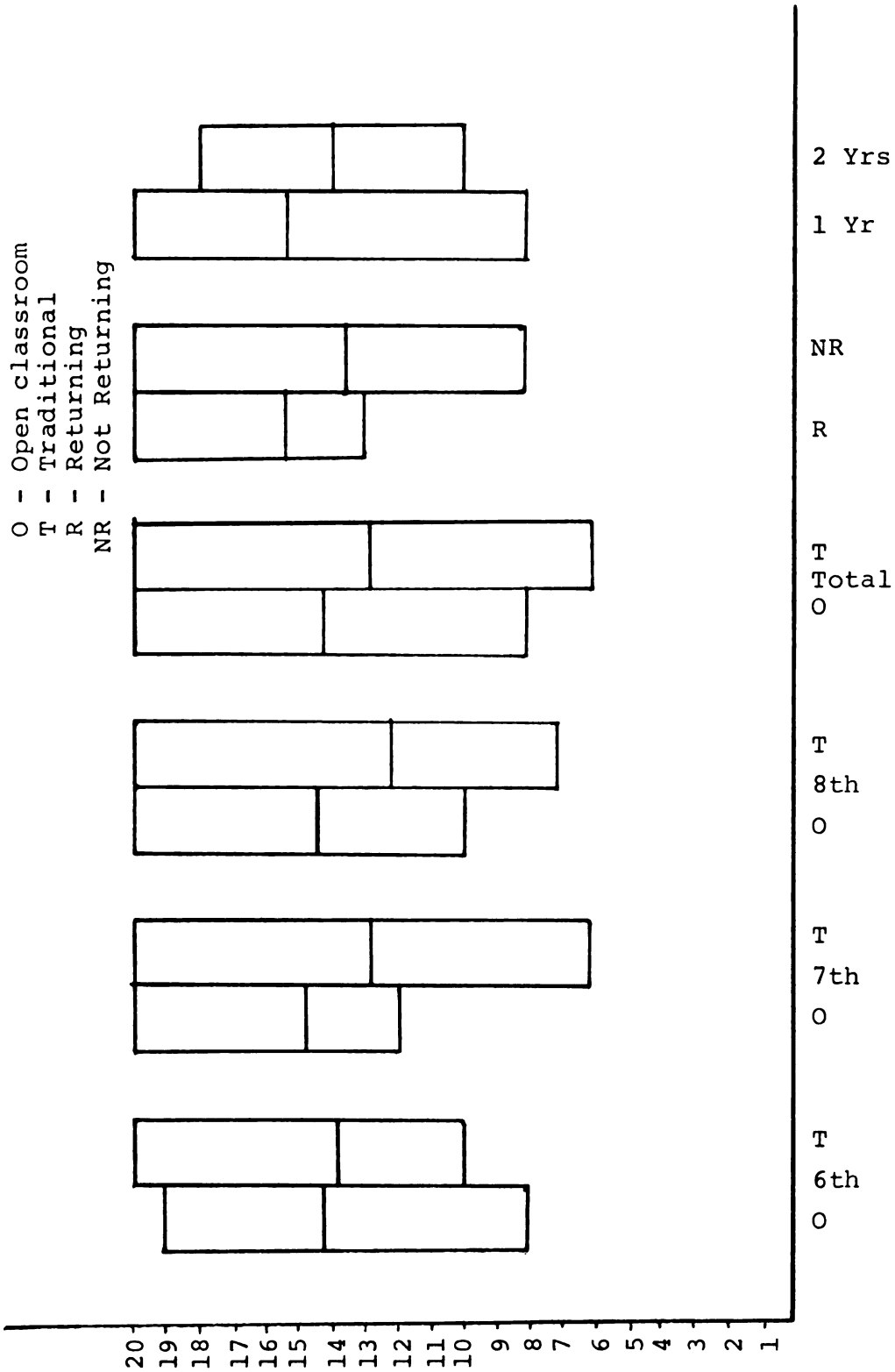

Figure 4: Ranges and Means for Attitude Questionnaire--Satisfaction.

Personal Competence

The "personal competence" sub-test was designed to measure the student's "feeling of mastery over the self and the environment" (Campbell, 1960:518).

Table 3 presents the means, differences in means, t statistics, and confidence levels for each group on the characteristics of personal competence.

The means are interpreted graphically in Figure 5. For each of the three grades the open classroom subjects revealed a higher degree of personal competence than did the subjects from the traditional classrooms. This difference was significant at the .02 level for the seventh grade and at the .02 level for the total open classroom group. The returning and not returning open classroom groups showed a difference in means of 3.1488 yielding a degree of confidence of .001.

The first and second year open classroom groups were almost identical with a difference of only .1799. Again both groups measured a higher feeling of personal competence than any of the students from the traditional classrooms.

Figure 6 shows ranges and means for all groups on the sub-test of "personal competence." The seventh and eighth grade traditional classroom subjects show a wider range on this sub-test than the open classroom subjects but for the sixth grade, the opposite is true.

Table 3

Attitude Questionnaire by Sub-test--Personal Competence

Groups	Means	S.D.	T test	Confidence
6 - O	12.5385	3.0157	.4653	----
6 - T	12.2000	1.9391		
7 - O	12.9130	1.6128	2.3266	.02
7 - T	11.5417	2.2726		
8 - O	13.1818	1.4025	1.7583	----
8 - T	12.3600	1.6942		
Total - O	12.8592	2.2030	2.3230	.02
Total - T	12.0405	2.0097		
R	14.1923	1.7763	5.6685	.001
NR	11.0435	2.0319		
1 Yr.	12.9565	1.3666	-.3886	----
2 Yrs.	13.1364	1.6596		

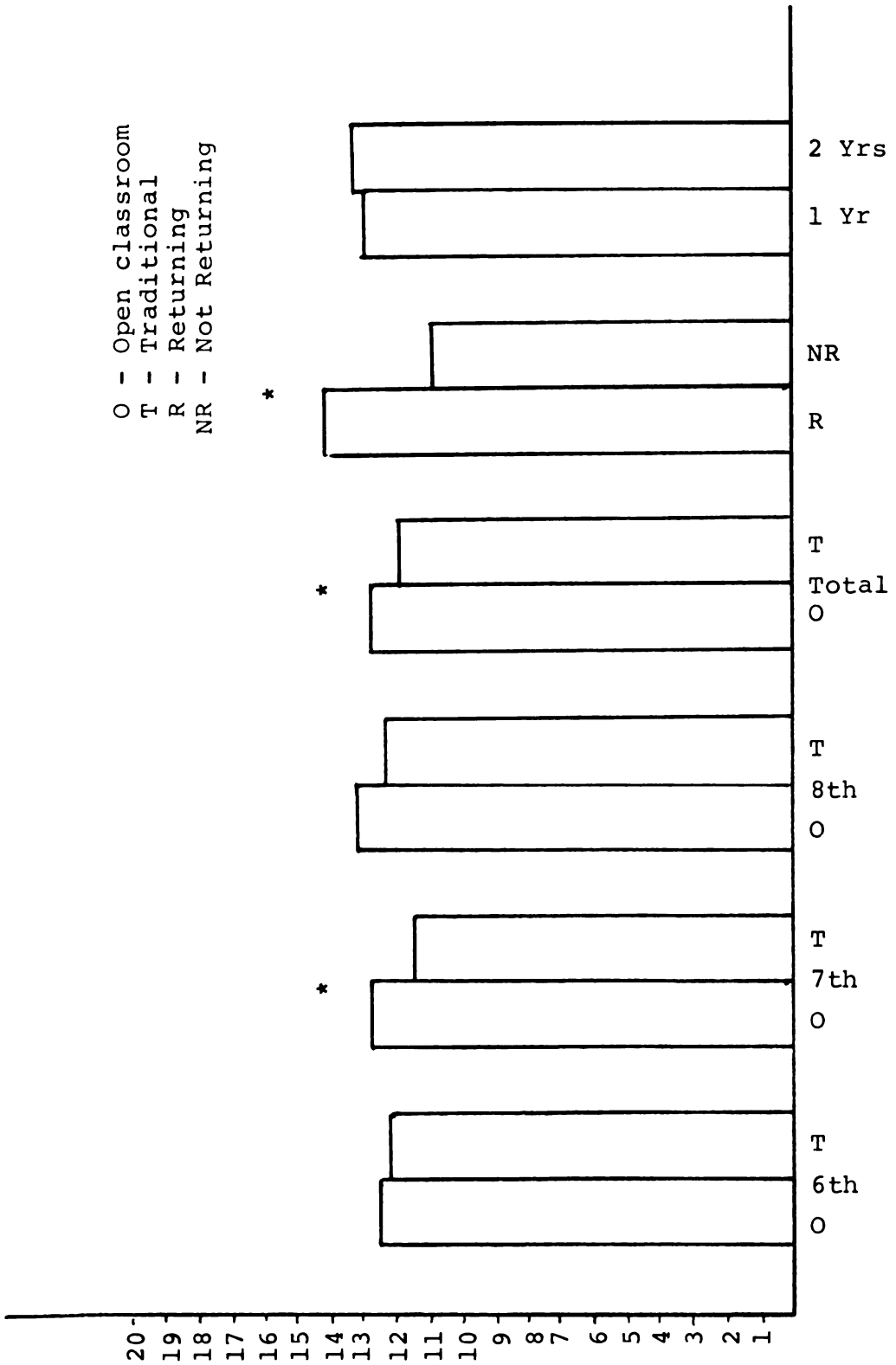

Figure 5: Means for Attitude Questionnaire--Personal Competence.

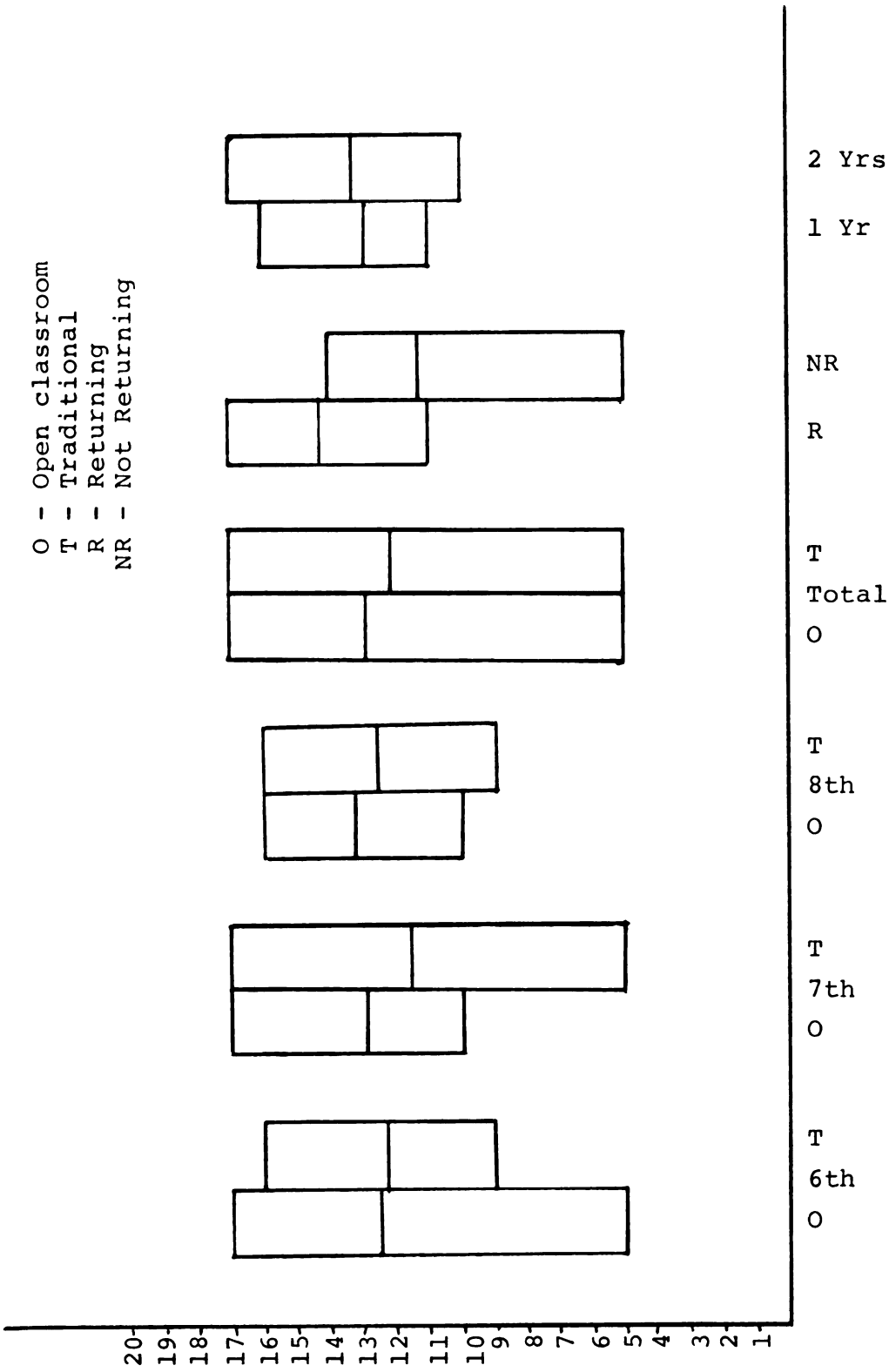

Figure 6: Ranges and Means for Attitude Questionnaire--Personal Competence.

Acceptable to Others

This sub-test is intended to ascertain the student's feelings concerning his acceptability to others.

Table 4 provides the means, differences in means, t test statistics and confidence levels for all groups on "acceptability to others." The means are interpreted graphically in Figure 7. In each grade the open classroom subjects believe themselves acceptable to others to a higher degree than do the traditional classroom subjects. However, these differences are statistically significant only for the eighth grade (.001) resulting in a total group significance at the .01 level of confidence.

Again, the returning - not returning groups show a significant difference (.01) with the returning students significantly more secure about their acceptability to others than the students not planning to return.

The first and second year open classroom students scored very close on this sub-test with both groups revealing a higher feeling of acceptability to others than any of the traditional classroom groups.

Figure 8 is a bar graph showing the ranges and means for all groups on the sub-test "acceptable to others." The traditional classroom seventh and eighth grade groups show a greater range than the open classroom subjects in these grades while the sixth grade open classroom figures reveal a higher range on this sub-test.

Table 4

Attitude Questionnaire by Sub-test--

Acceptable to Others

Groups	Means	S.D.	T test	Confidence
6 - O	13.8462	2.8915	.5750	----
6 - T	13.4400	1.9407		
7 - O	13.9130	2.0624	1.4067	----
7 - T	13.0417	2.0912		
8 - O	14.9545	.8245	5.0165	.001
8 - T	13.2400	1.3647		
Total - O	14.2113	2.2134	2.8556	.01
Total - T	13.2432	1.8293		
R	14.7308	1.9327	2.6255	.01
NR	12.9130	2.7806		
1 Yr.	14.5217	1.5286	.4011	----
2 Yrs.	14.3182	1.7936		

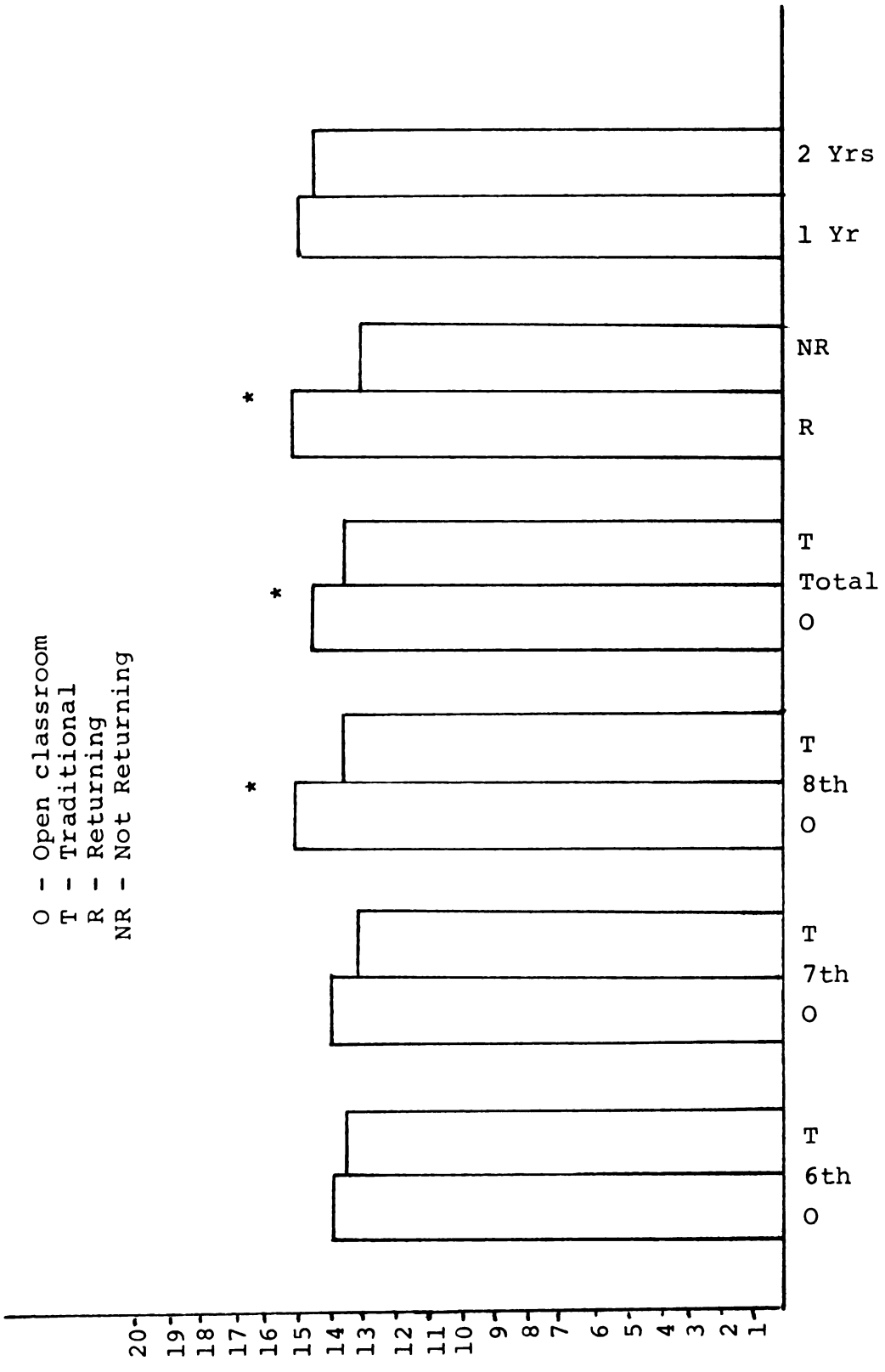

Figure 7: Means for Attitude Questionnaire--Acceptable to Others.

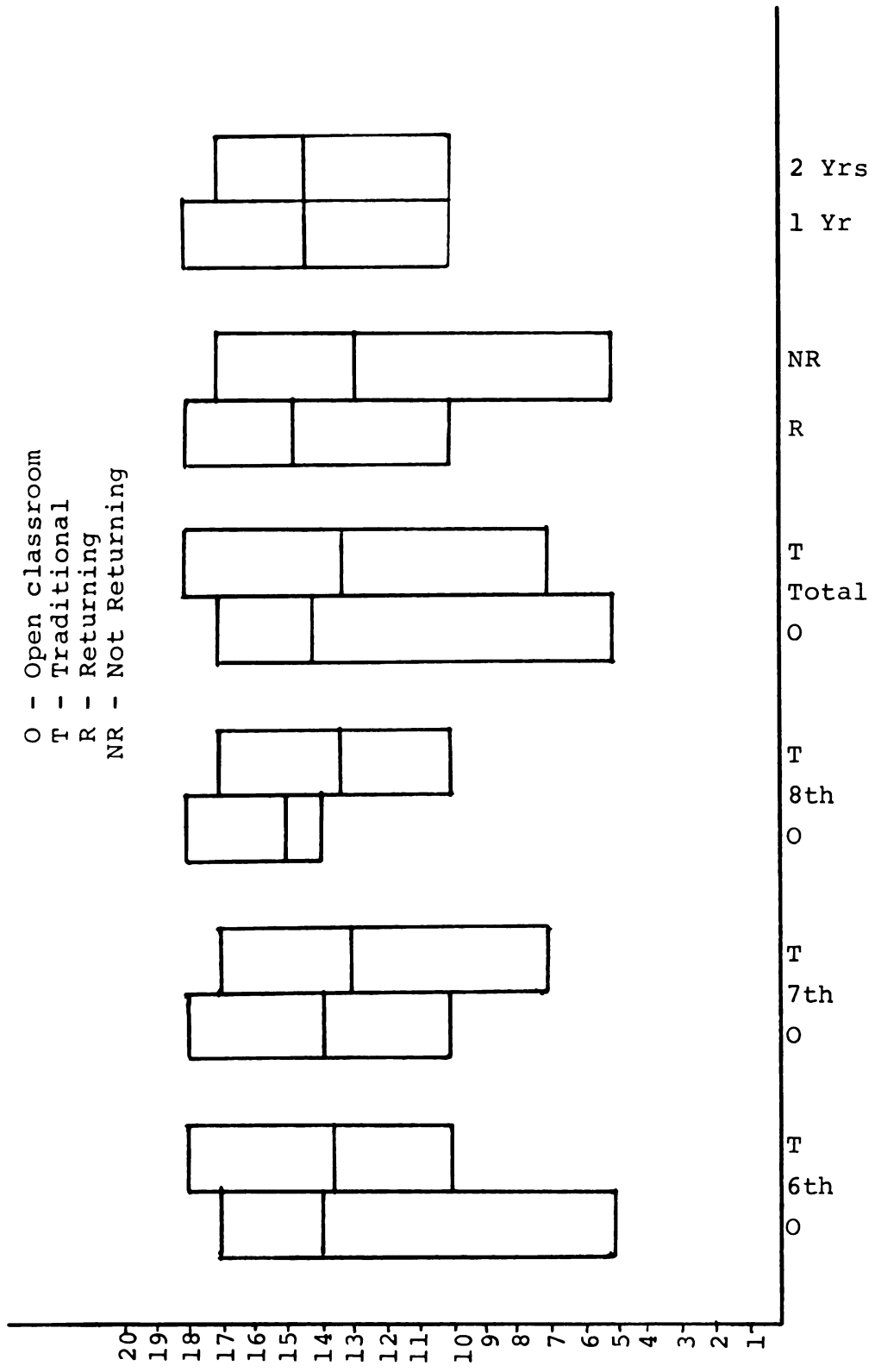

Figure 8: Ranges and Means for Attitude Questionnaire--Acceptable to Others.

Social Responsibility

The "social responsibility" sub-test was designed to measure "a person's traditional social responsibility, an orientation toward helping others even when there is nothing to be gained from them" (Robinson and Shaver, 1969: 383).

Table 5 supplies means, differences in means, t test statistics, and confidence intervals for all groups on this sub-test.

Figure 9 illustrates the various means graphically. There is a slight difference in favor of the open classroom subjects on "social responsibility" but it is not statistically significant for any of the groups.

The returning S.W.S. students, however, show a significantly higher, (.05) "social responsibility" rating than do the not returning students.

The first year S.W.S. students show a slight but not significant lead in "social responsibility" over the traditional classroom students.

The ranges and means of the various groups on this sub-test are presented in Figure 10. The pattern appears random although the not returning group shows a greater range than the returning group, a pattern consistent throughout most of the sub-tests.

Table 5

Attitude Questionnaire by Sub-test--

Social Responsibility

Groups	Means	S.D.	T test	Confidence
6 - O	16.4615	3.1772	1.2280	----
6 - T	15.5600	1.7223		
7 - O	15.0000	2.8893	1.2324	----
7 - T	14.0000	2.5495		
8 - O	15.2727	1.6006	.5382	----
8 - T	14.9200	2.6065		
Total - O	15.6197	2.7597	1.8064	----
Total - T	14.8378	2.4107		
R	16.5769	3.2246	1.9908	.05
NR	14.8261	2.7450		
1 Yr.	15.6957	2.0733	1.6522	----
2 Yrs.	14.5455	2.4813		

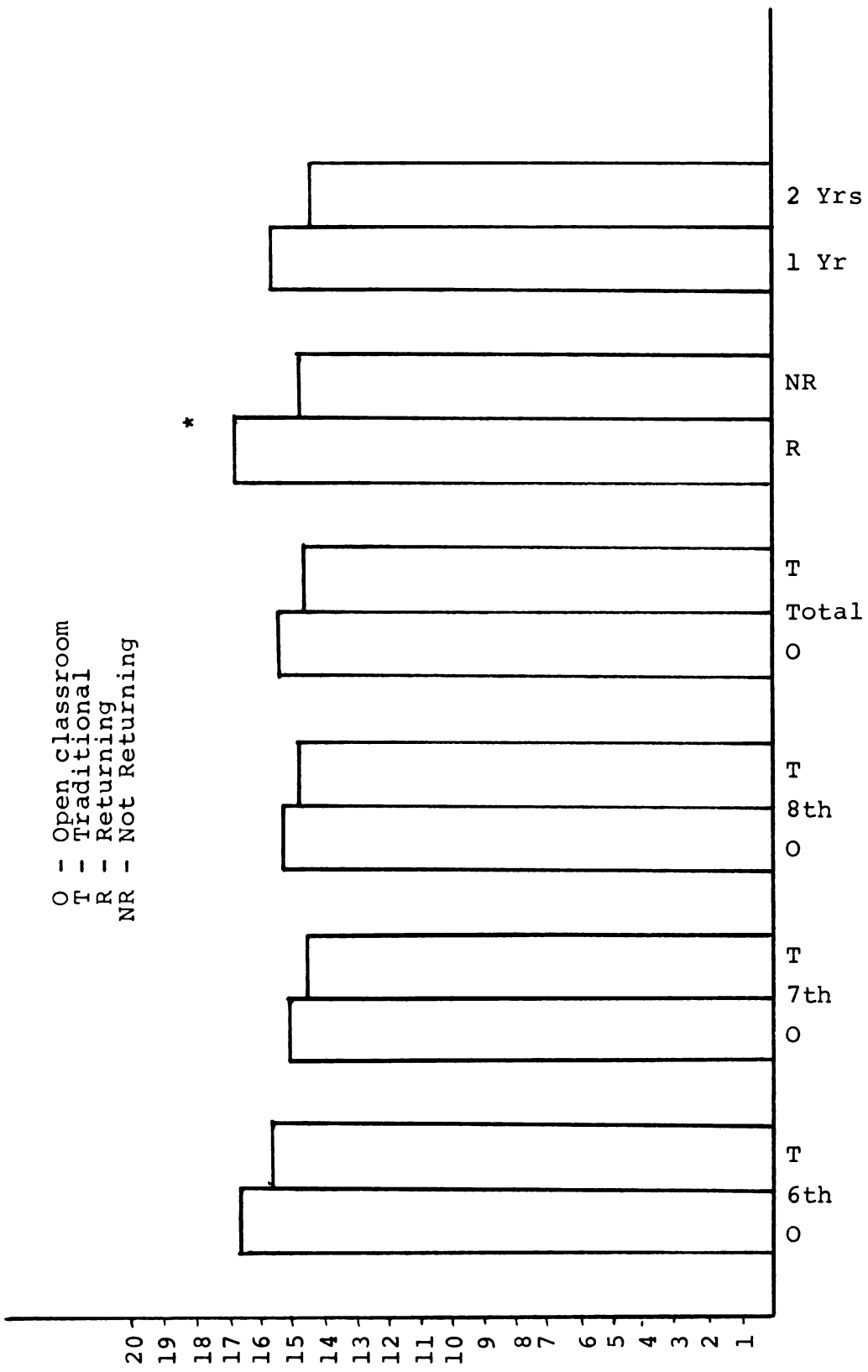

Figure 9: Means for Attitude Questionnaire--Social Responsibility.

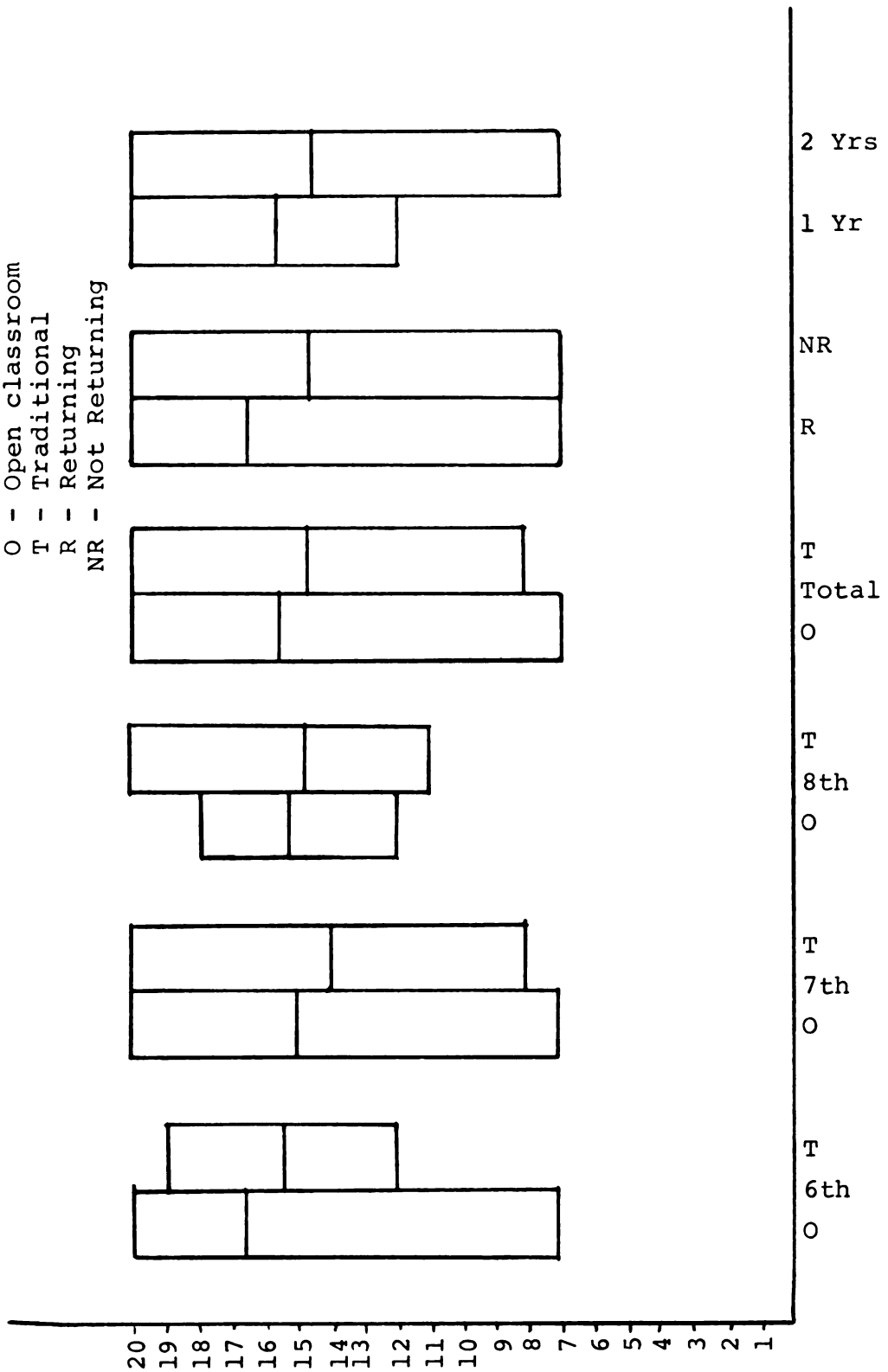

Figure 10: Ranges and Means for Attitude Questionnaire--Social Responsibility.

Authoritarian

The "authoritarian sub-test in the present study is concerned with only one dimension of authoritarianism--authoritarian aggression: the tendency to be on the lookout for, and to condemn, reject and punish people who violate conventional values."

Table 6 provides the means, differences between means, t test statistics and confidence intervals on this sub-test. Negative values appear for all pairs except first and second year open classroom subjects.

Figure 11 provides a visual display for ease of interpretation. In all cases, the traditional classroom groups measured a higher degree of authoritarianism with the sixth, eighth and total groups showing differences which are significantly different at the .05, .001, and .001 levels respectively.

The not returning S.W.S. students show a significantly higher (.01) degree of authoritarianism than do the returning students.

Figure 12 provides the ranges and means for the various groups on the "authoritarian" sub-test. The differences in ranges reveal no consistent patterns on this sub-test.

Attitude Questionnaire--Comparison by Group

In the preceding section, each sub-test was presented separately and comparisons were made between

Table 6

Attitude Questionnaire by Sub-test--Authoritarianism

Groups	Means	S.D.	T test	Confidence
6 - O	12.0769	2.3357	-2.1764	.05
6 - T	13.6000	2.5612		
7 - O	11.4348	3.2946	-1.8373	----
7 - T	13.0833	2.7067		
8 - O	10.9545	2.3641	-4.3255	.001
8 - T	13.7600	1.9855		
Total - O	11.5211	2.7315	-4.5326	.001
8 - T	13.7600	1.9855		
Total - O	11.5211	2.7315	-4.5326	.001
Total - T	13.4865	2.4508		
R	10.7692	2.5315	-3.0004	.01
NR	13.1304	2.8636		
1 Yr.	11.2609	2.5744	.1414	----
2 Yrs.	11.1364	3.1808		

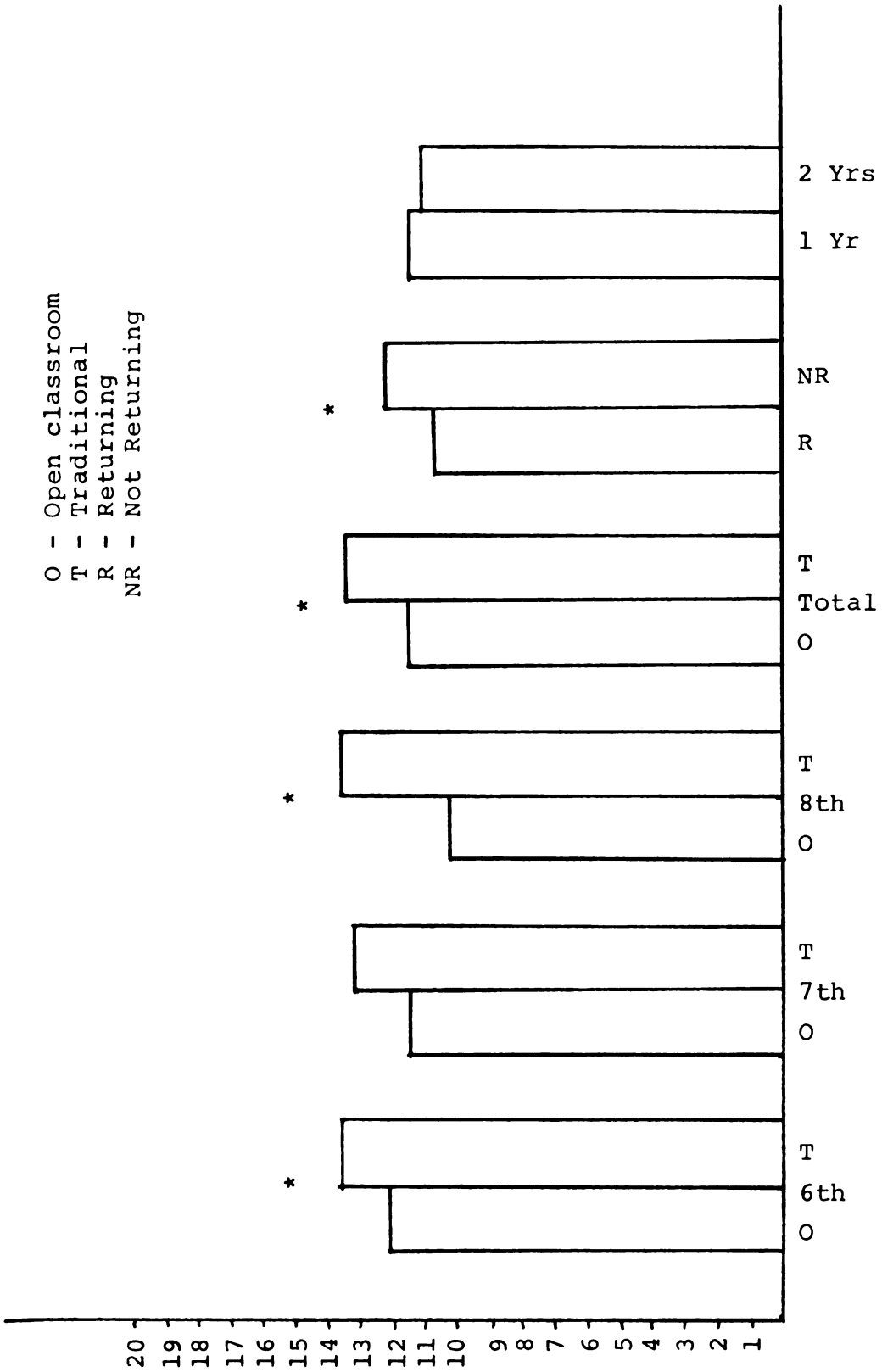

Figure 11: Means for Attitude Questionnaire--Authoritarian.

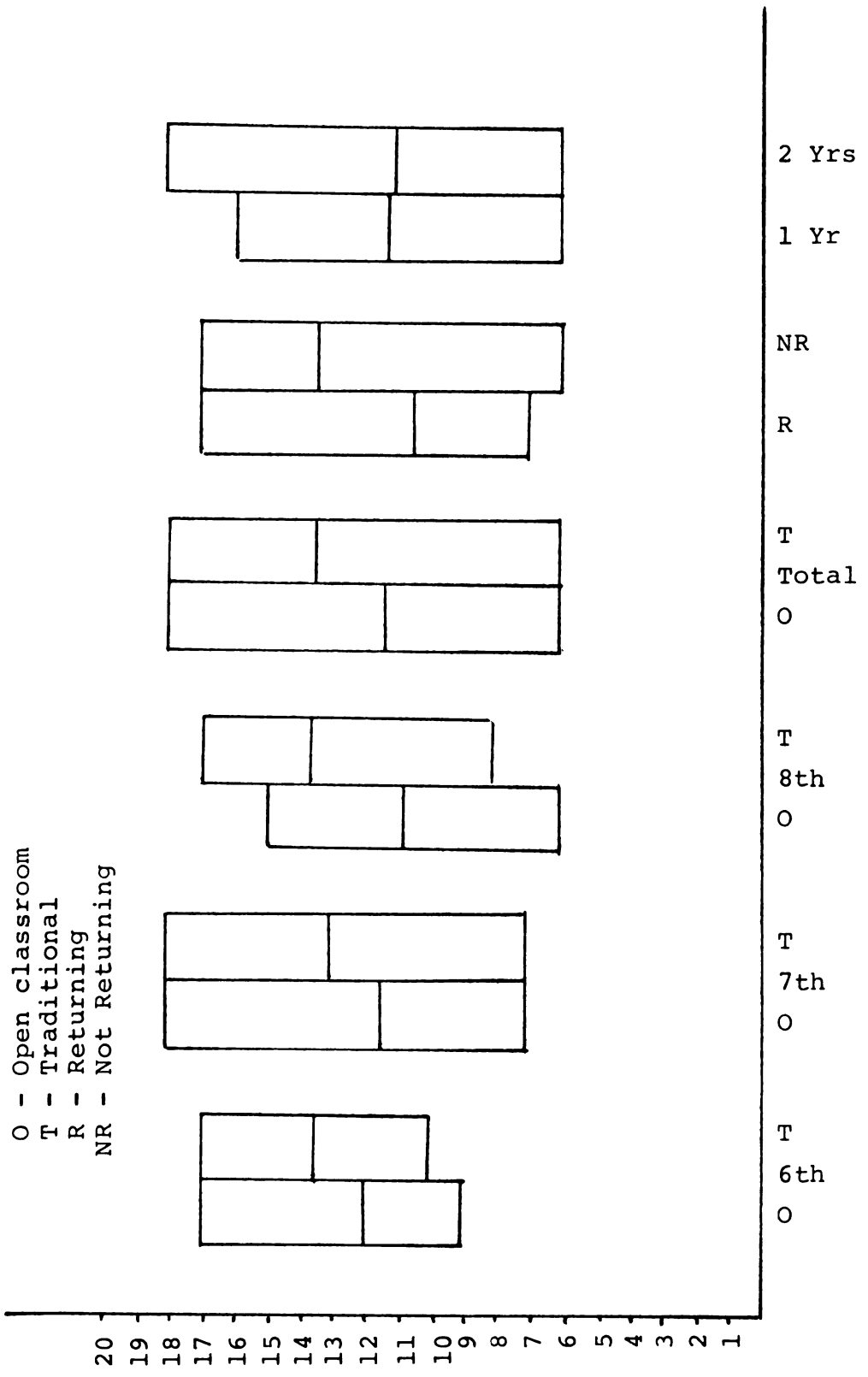

Figure 12: Ranges and Means for Attitude Questionnaire--Authoritarian.

various pairs of groups. The following section includes tables and graphs which show the relative differences between the various pairs of groups on all sub-tests.

Sixth Grade

Table 7 contains means, differences in means, t test statistics and confidence levels for sixth grade S.W.S. students compared with students from traditional classrooms.

Figure 13 depicts the means graphically. For all sub-tests except "authoritarian," the open classroom subjects were slightly higher than the traditional classroom subjects, however, none of the differences are significant. There is a statistically significant difference on the "authoritarian" sub-test with the group from the traditional classroom showing a higher degree of authoritarianism than the S.W.S. students.

Seventh Grade

The two seventh grade groups, S.W.S. and traditional classrooms, are compared for all sub-tests in Table 8 which shows means, differences in means, t test statistics and confidence levels. Differences in means may be seen graphically in Figure 14. Here more differences between groups are seen than in the sixth grade. The S.W.S. students' means are significantly higher on "environment," "satisfaction," and "personal competence."

Table 7

Attitude Questionnaire--6th Grade--All Sub-tests

	6 - O		6 - T
Environment			
Means	14.1923		13.8000
Diff. in Means		.3923	
T test		.6056	
Confidence		----	
Satisfaction			
Means	14.1923		13.8400
Diff. in Means		.3525	
T test		.6055	
Confidence		----	
Personal Competence			
Means	12.5385		12.2000
Diff. in Means		.3385	
T test		.4653	
Confidence		----	
Acceptable to Others			
Means	13.8462		13.4400
Diff. in Means		.4062	
T test		.5750	
Confidence		----	
Social Responsibility			
Means	16.4615		15.5600
Diff. in Means		.9015	
T test		1.2280	
Confidence		----	
Authoritarian			
Means	12.0769		13.6000
Diff. in Means		-1.5231	
T test		-2.1764	
Confidence		.05	

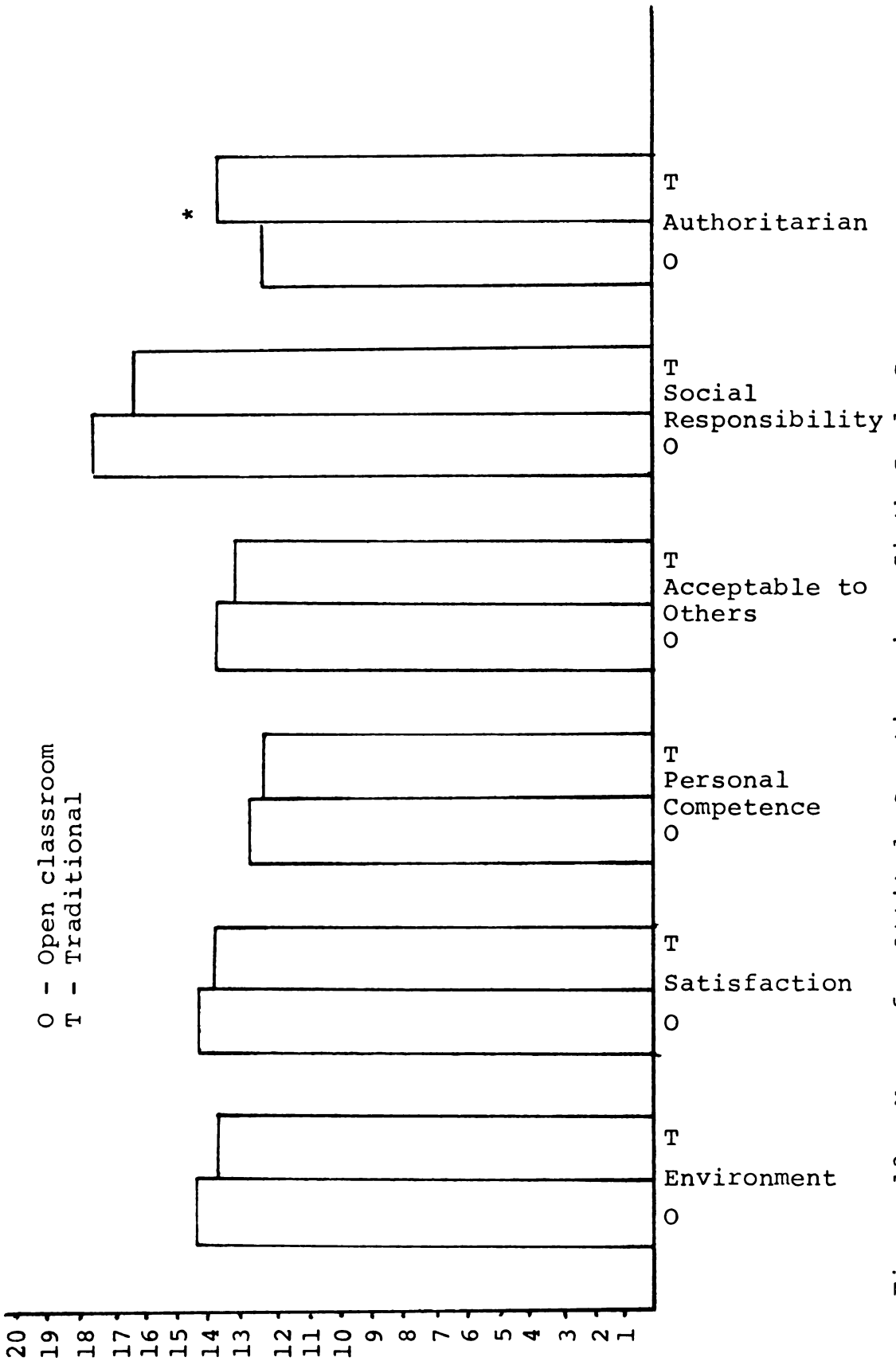

Figure 13: Means for Attitude Questionnaire--Sixth Grade Groups.

Table 8

Attitude Questionnaire--7th Grade--All Sub-tests

	7 - O		7 - T
Environment			
Means	15.1739		13.4583
Diff. in Means		2.7156	
T test		4.6628	
Confidence		.001	
Satisfaction			
Means	14.7391		12.7917
Diff. in Means		1.9474	
T test		2.8757	
Confidence		.01	
Personal Competence			
Means	12.9130		11.5417
Diff. in Means		1.3713	
T test		2.3266	
Confidence		.02	
Acceptable to Others			
Means	13.9130		13.0417
Diff. in Means		.8713	
T test		1.4067	
Confidence		----	
Social Responsibility			
Means	15.0000		14.0000
Diff. in Means		1.0000	
T test		1.2324	
Confidence		----	
Authoritarian			
Means	11.4348		13.0833
Diff. in Means		-1.6485	
T test		-1.8373	
Confidence		----	

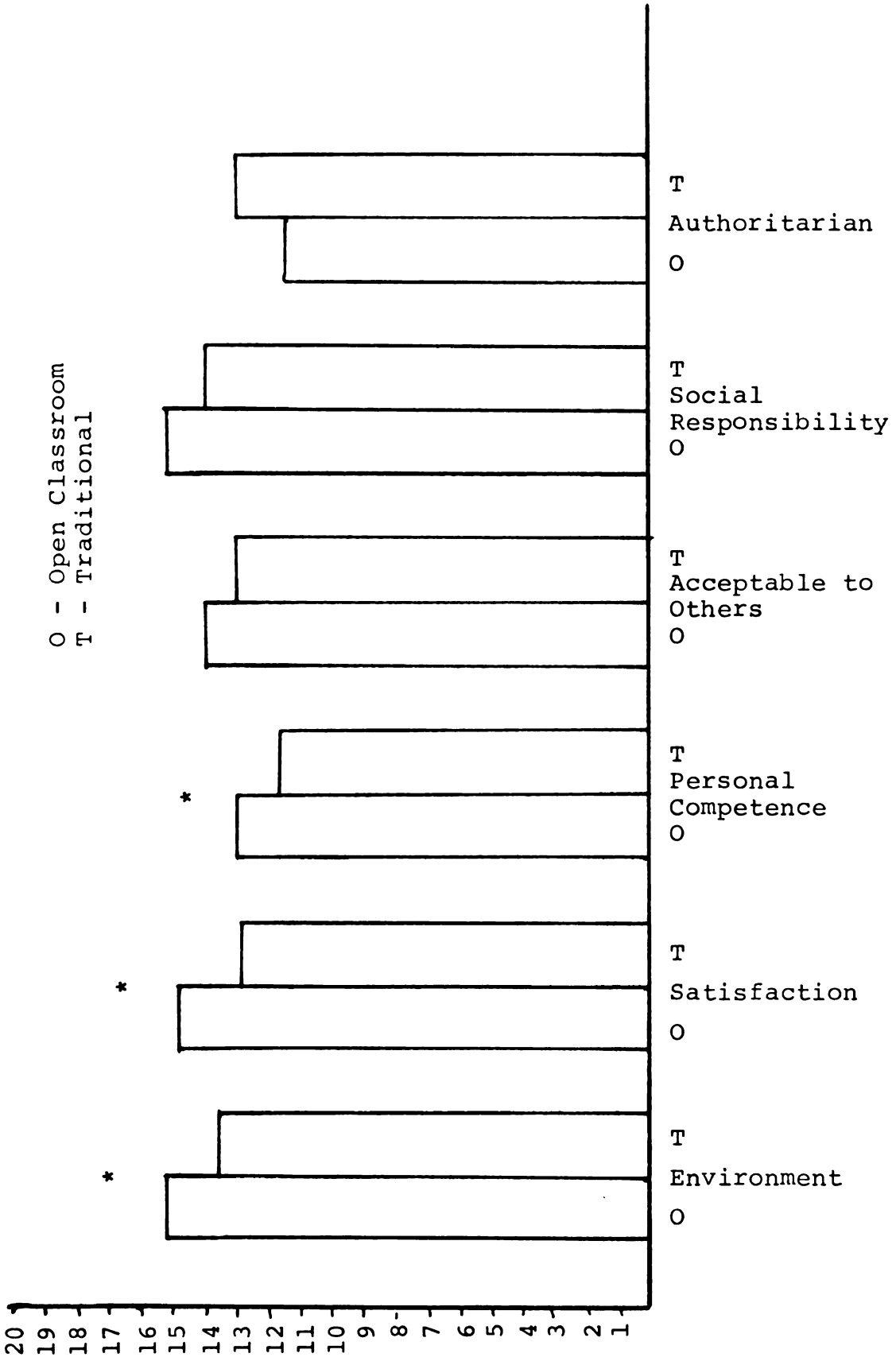

Figure 14: Means for Attitude Questionnaire--Seventh Grade Groups.

Their means are higher than those of the traditional classroom seventh graders on "acceptability to others," and "social responsibility" but the differences are not significant.

The traditional classroom seventh graders show a higher mean on authority than the S.W.S. seventh graders but the difference is not statistically significant.

Eighth Grade

Table 9 contains means, differences in means, t test statistics and confidence levels for S.W.S. and traditional classroom students in the eighth grade.

Figure 15 presents the means graphically. Here again, for all sub-tests except "authoritarian" the S.W.S. group's means are higher with the differences for "environment," "satisfaction," and "acceptability" being significantly greater to the .001 degree of confidence. The traditional classroom subjects measured significantly higher on authority than did their S.W.S. counterparts in the eighth grade.

Total

Table 10 provides means, differences in means, t test statistics and confidence levels for S.W.S. and traditional classroom students in all three grades combined.

Figure 16 presents the means in graph form.

Table 9

Attitude Questionnaire--8th Grade--All Sub-tests

	8 - O		8 - T
Environment			
Means	15.5909		13.1200
Diff. in Means		2.4709	
T test		6.1158	
Confidence		.001	
Satisfaction			
Means	14.5909		12.0800
Diff. in Means		2.5109	
T test		3.9100	
Confidence		.001	
Personal Competence			
Means	13.1818		12.3600
Diff. in Means		.7218	
T test		1.7583	
Confidence		----	
Acceptable to Others			
Means	14.9545		13.2400
Diff. in Means		1.7145	
T test		5.0165	
Confidence		.001	
Social Responsibility			
Means	15.2727		14.9200
Diff. in Means		.3527	
T test		.5382	
Confidence		----	
Authoritarian			
Means	10.9545		13.7600
Diff. in Means		-2.8055	
T test		-4.3255	
Confidence		.001	

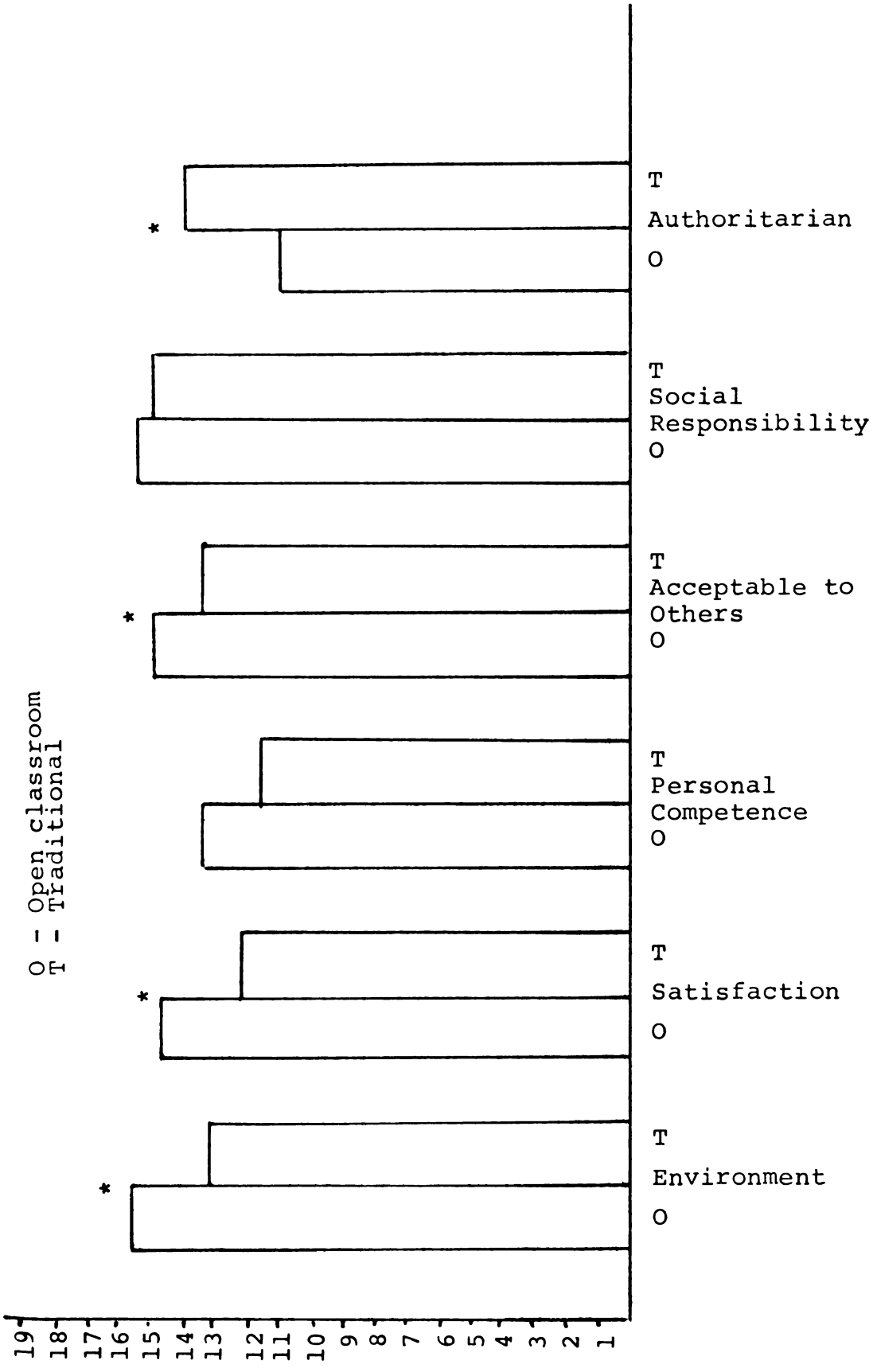

Figure 15: Means for Attitude Questionnaire--Eighth Grade Groups.

Table 10

Attitude Questionnaire All Sub-Tests--Total Open Classroom--Traditional Classroom

	Total OC		Total TC
Environment			
Means	14.9437		13.1351
Diff. in Means		1.8086	
T test		5.4317	
Confidence		.001	
Satisfaction			
Means	14.4930		12.9054
Diff. in Means		1.5876	
T test		4.2764	
Confidence		.001	
Personal Competence			
Means	12.8592		12.0405
Diff. in Means		.8187	
T test		2.3230	
Confidence		.02	
Acceptable to Others			
Means	14.2113		13.2432
Diff. in Means		.9681	
T test		2.8556	
Confidence		.01	
Social Responsibility			
Means	15.6197		14.8378
Diff. in Means		.7819	
T test		1.8064	
Confidence		----	
Authoritarian			
Means	11.5211		13.4865
Diff. in Means		-1.9654	
T test		-4.5326	
Confidence		.001	

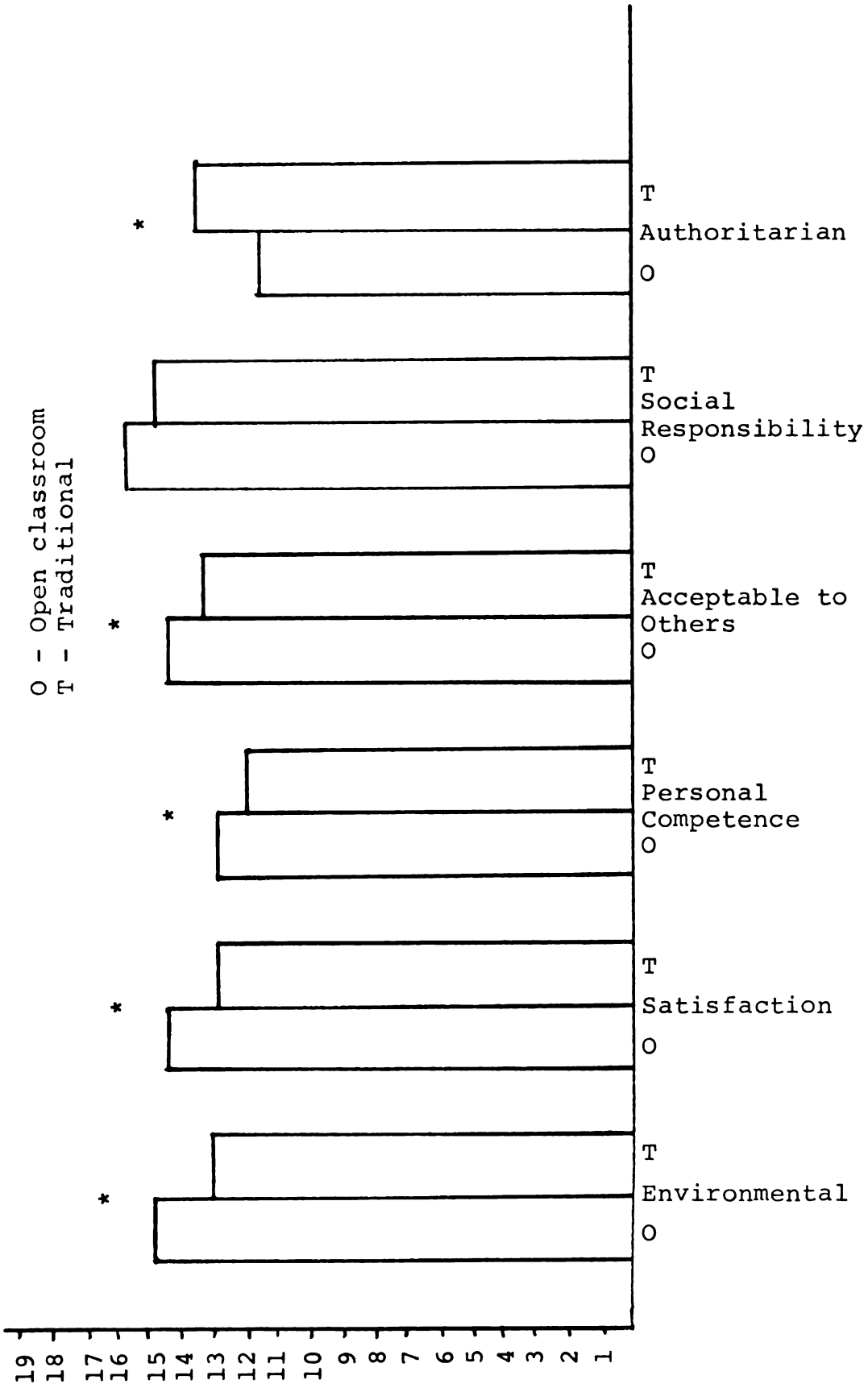

Figure 16: Means for Attitude Questionnaire--Total Open and Traditional Groups.

There is a significant difference in means between open classroom and traditional classroom subjects on all sub-tests except "social responsibility."

Returning - Not Returning

Table 11 contains means, differences in means, t test statistics and confidence levels for S.W.S. students planning to return to the open classroom compared with S.W.S. students choosing not to return.

Figure 17 illustrates the means in graphic form. In every sub-test the means between the two groups were significantly different. The returning group scored significantly higher on all sub-tests except "authoritarian" in which the not returning students obtained a higher mean.

One-Year and Two-Year Students

Table 12 provides means, differences in means, t test statistics and confidence levels for students who had been in the open classroom for one and two years respectively.

Figure 18 shows the means graphically. The only sub-test on which a significant difference occurred was on "satisfaction." Here the first year students measured significantly higher; however, both groups scored means of at least 13 on all sub-tests except "authoritarian."

Table 11

Attitude Questionnaire All Sub-Tests--Returning, Not Returning Groups

	Returning		Not Returning
Environment			
Means	16.2692		12.8261
Diff. in Means		3.4433	
T test		6.3168	
Confidence		.001	
Satisfaction			
Means	15.2308		13.5652
Diff. in Means		1.6656	
T test		3.2541	
Confidence		.01	
Personal Competence			
Means	14.1923		11.0435
Diff. in Means		3.1488	
T test		5.6685	
Confidence		.001	
Acceptable to Others			
Means	14.7308		12.9130
Diff. in Means		1.8178	
T test		2.6255	
Confidence		.01	
Social Responsibility			
Means	16.5769		14.8261
Diff. in Means		1.7508	
T test		1.9908	
Confidence		.05	
Authoritarian			
Means	10.7692		13.1304
Diff. in Means		-2.3612	
T test		-3.0004	
Confidence		.01	

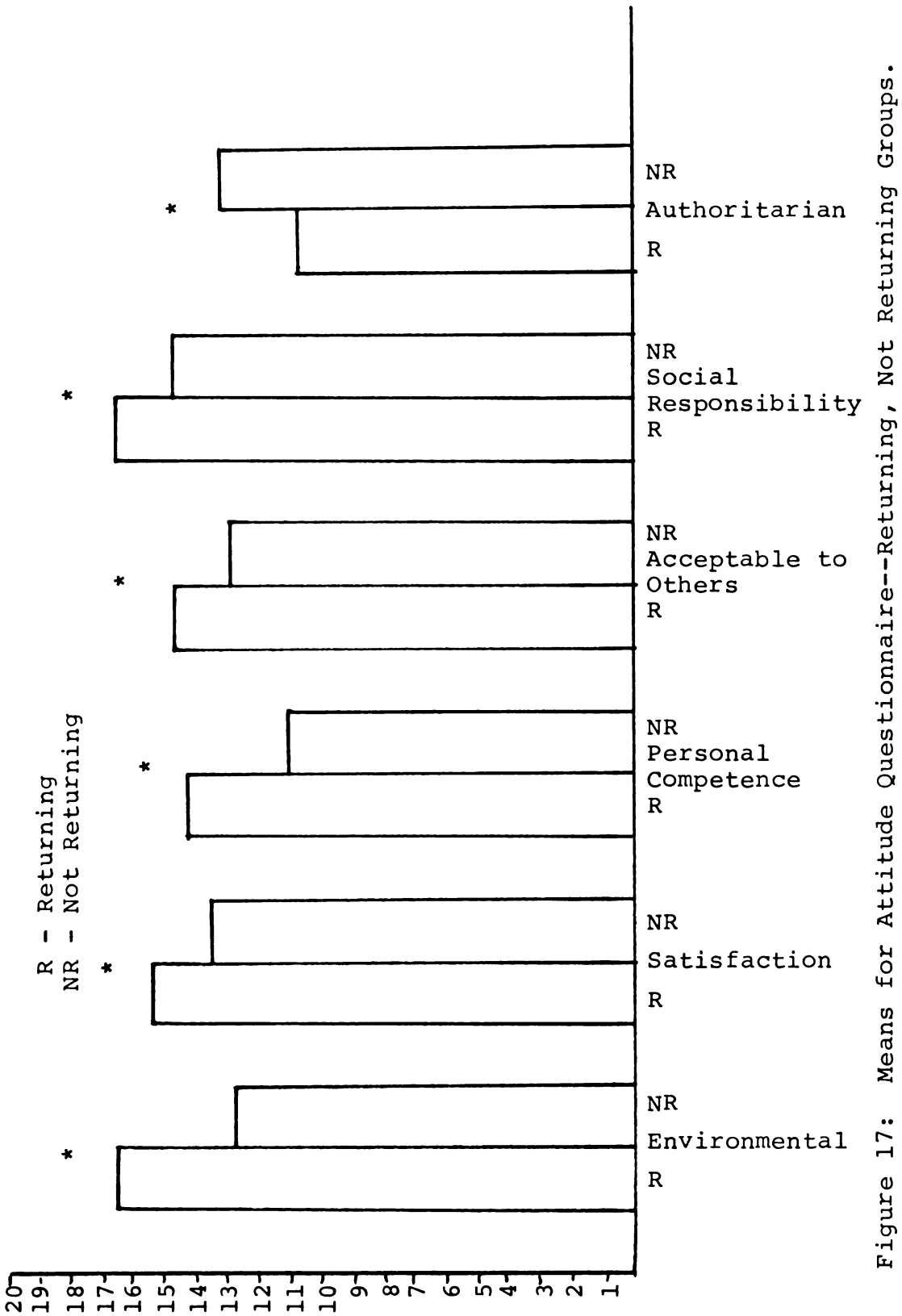

Figure 17: Means for Attitude Questionnaire--Returning, Not Returning Groups.

Table 12

Attitude Questionnaire--One Year, Two Year Groups--

All Sub-tests

	1 Year		2 Years
Environment			
Means	15.5217		15.2273
Diff. in Means		.2944	
T test		.5520	
Confidence		----	
Satisfaction			
Means	15.2174		14.0909
Diff. in Means		1.1265	
T test		2.2637	
Confidence		.01	
Personal Competence			
Means	12.9565		13.1364
Diff. in Means		-.1799	
T test		-.3886	
Confidence		----	
Acceptable to Others			
Means	14.5217		14.3182
Diff. in Means		.2035	
T test		.4011	
Confidence		----	
Social Responsibility			
Means	15.6957		14.5455
Diff. in Means		1.1502	
T test		1.6522	
Confidence		----	
Authoritarian			
Means	11.2609		11.1364
Diff. in Means		.1245	
T test		.1414	
Confidence		----	

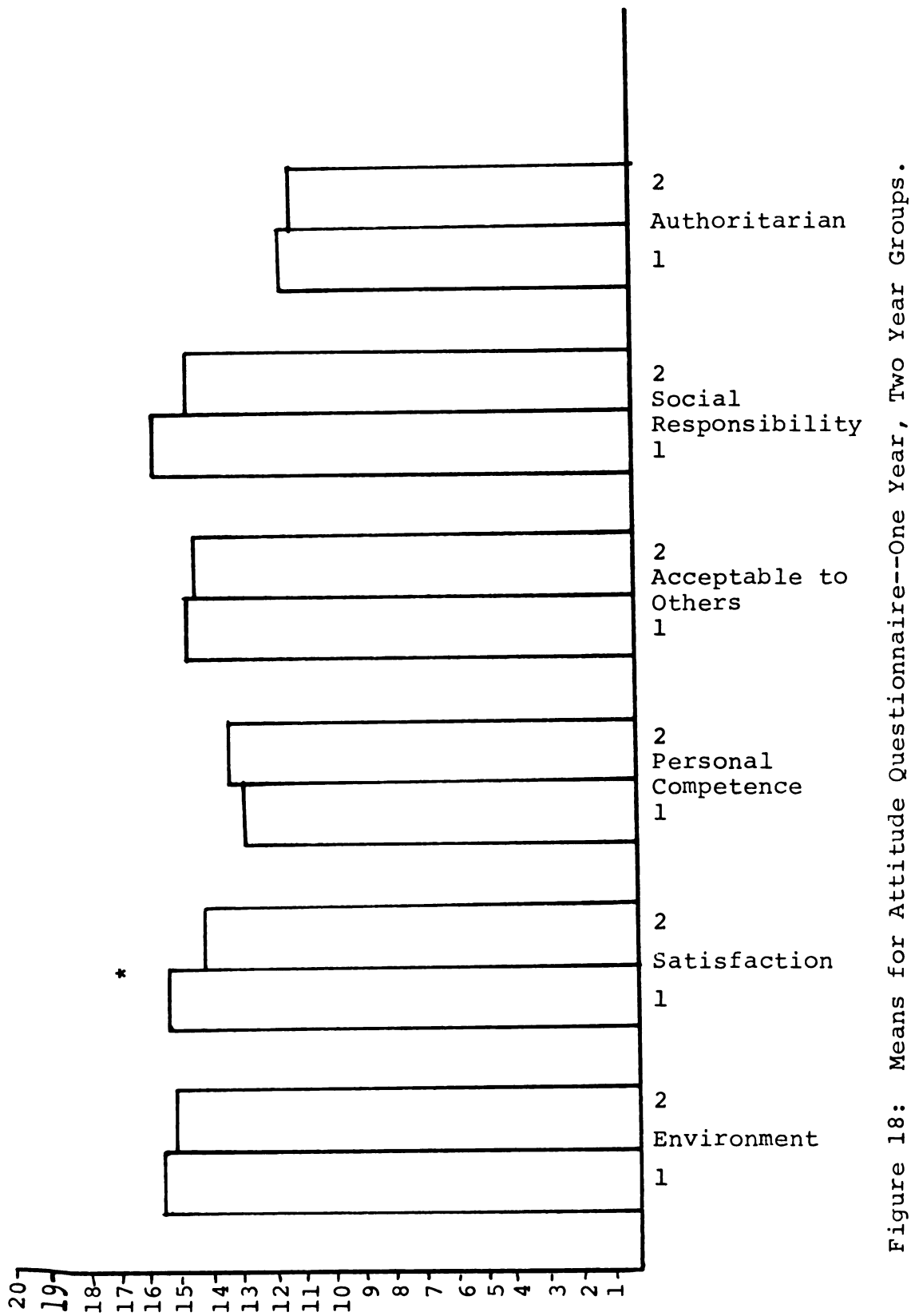

Figure 18: Means for Attitude Questionnaire--One Year, Two Year Groups.

Value Survey by Group

This section presents the ranking of the values by each pair of groups. It includes tables and graphs illustrating the results of the survey; for example, the rank orders of the various values for sixth grade are presented by table and by graph (Table 14 and Figure 19). Special attention was given to those values that were given the same or almost the same rank by both of the groups being compared and those values that were given quite different rankings. A three place difference was arbitrarily selected for special mention because it was felt that it could be used to show any forming patterns.

Table 13 supplies the means for each group on each of the twelve values calculated as explained on page 33. In this table the higher scores indicate the values selected as most important. It gives an overview of all values for all grades.

Sixth Grade

Table 14 contains the rank ordering of the values by the sixth grade open classroom and traditional classroom students. The figures in parentheses indicate equal ranking.

Both groups chose "cheerful" as their first place value and both ranked "good looking" and "obedient" as their last two. The only two values with a difference of more than three places in rank order were "capable" and

Table 13

Value Survey Scores

	Capable	Cheerful	Forgiving	Good Looking	Helpful	Imaginative	Independent	Loving	Obedient	Polite	Responsible	Self Control
6-O	6.0	8.5	7.2	5.2	7.5	6.0	5.3	6.0	4.2	6.9	6.1	7.4
6-T	9.0	9.5	6.1	4.6	7.8	5.7	6.7	5.9	5.0	5.5	5.5	5.9
7-O	7.4	8.2	7.9	3.9	8.4	7.6	6.2	5.6	3.7	4.5	6.4	7.9
7-T	6.5	9.0	6.8	6.0	8.3	4.3	5.3	7.8	4.3	6.6	6.5	6.6
8-O	6.5	8.3	8.0	3.3	7.0	5.6	7.7	6.5	4.5	6.4	6.4	8.1
8-T	7.2	7.7	6.9	5.1	8.4	6.6	6.1	5.0	5.0	6.6	6.8	6.3
T-O	6.6	8.2	7.8	3.9	7.9	6.7	7.1	6.3	4.1	5.7	6.2	7.8
T-T	7.4	8.6	6.7	5.3	8.2	5.9	6.3	6.0	4.9	6.2	6.3	6.4
R	8.1	8.0	7.7	2.5	8.1	7.1	7.5	4.9	3.9	4.9	5.7	8.7
NR	5.8	8.8	7.7	6.7	8.1	6.3	4.8	6.8	3.8	5.8	6.5	6.7
1 Yr	6.5	9.0	8.0	5.0	7.3	6.0	6.6	6.5	3.8	5.8	5.7	7.7
2 Yrs	6.9	6.0	7.5	1.9	9.2	8.1	7.9	5.9	4.8	5.5	7.4	8.0

Table 14

Value Survey in Rank Order--Sixth Grade

	Open Classroom		Traditional Classroom
1.	Cheerful	1.	Cheerful
2.	Helpful	2.	Capable
3.	Self Control	3.	Helpful
4.	Forgiving	4.	Independent
5.	Polite	5.	Forgiving
6.	Responsible	6.(2)	Loving
7.(3)	Loving	6.(2)	Self Control
7.(3)	Imaginative	7.	Imaginative
7.(3)	Capable	8.(2)	Polite
8.	Independent	8.(2)	Responsible
9.	Good Looking	9.	Obedient
10.	Obedient	10.	Good Looking

"independent," which were both ranked higher by the traditional classroom students.

The bar graph (Figure 19) presents these results graphically. Because an instrument which requires a rank ordering of items cannot be adequately handled statistically, significant differences are not obtainable. The asterisks in the graphs in this section refer to comparisons in which values differed by more than three places in rank and should not be interpreted as statistically significant.

Seventh Grade

Table 15 contains the rank ordering of the values by seventh grade open and traditional classroom subjects.

In both groups, "cheerful" and "helpful" ranked as the two most important values and "obedient" as the least. "Imaginative," "loving," and "polite" were the values moving more than three places in the rank order. The open classroom students ranked "imaginative" higher and "polite" and "loving" lower than did the traditional classroom subjects.

Figure 20 illustrates these results in graph form.

Eighth Grade

Table 16 contains the rank ordering of the values by the eighth grade subjects. "Cheerful" is still ranked very high by both groups and "obedient" and "good looking" are at or near the bottom. Values changing rank by more than three places are "helpful," "independent," "loving,"

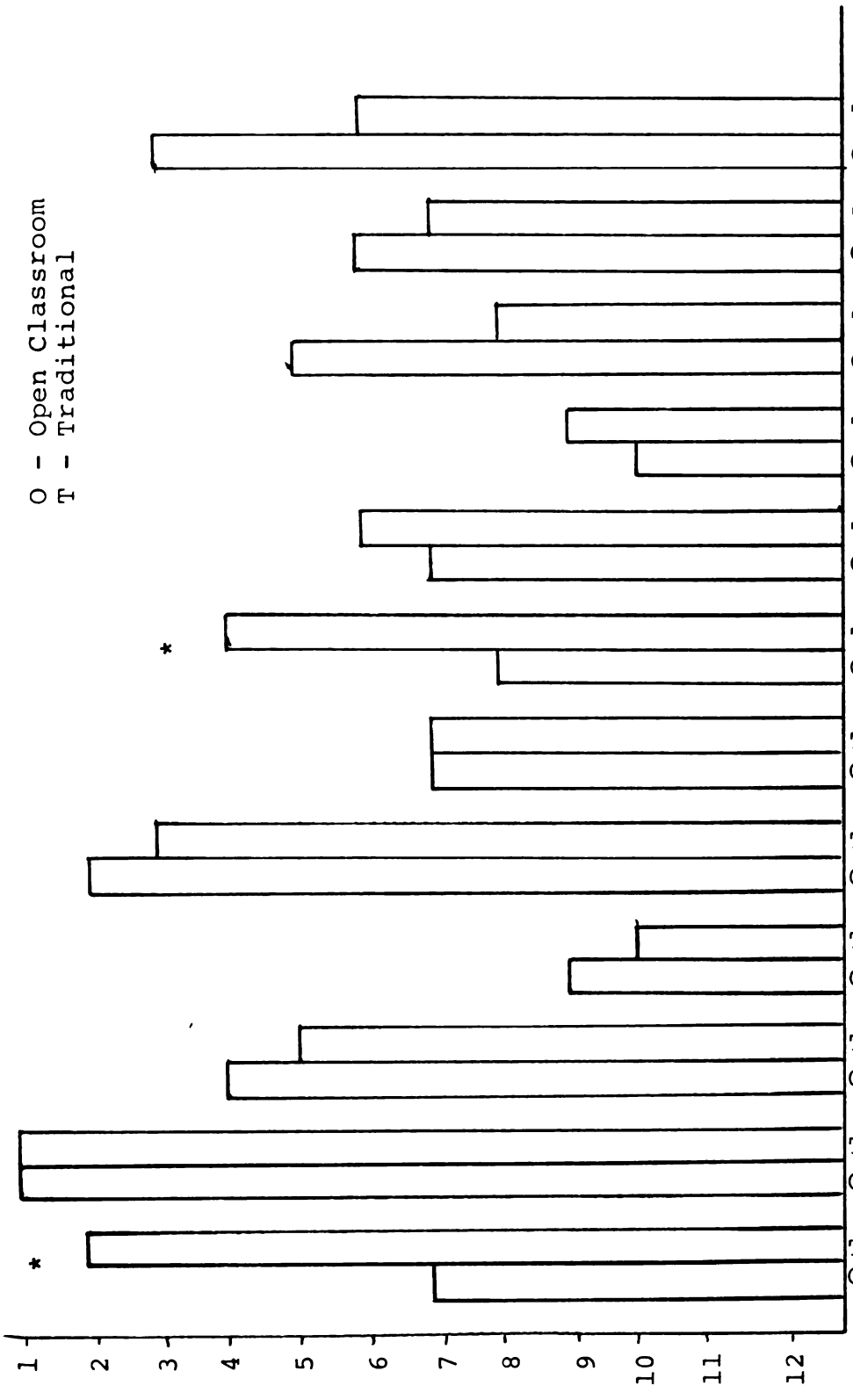

Figure 19: Rank Order of Sixth Grade--Value Survey.

Table 15

Value Survey in Rank Order--Seventh Grade

	Open Classroom		Traditional Classroom
1.	Helpful	1.	Cheerful
2.	Cheerful	2.	Helpful
3.(2)	Forgiving	3.	Loving
3.(2)	Self Control	4.	Forgiving
4.	Imaginative	5.(2)	Polite
5.	Capable	5.(2)	Self Control
6.	Responsible	6.(2)	Capable
7.	Independent	6.(2)	Responsible
8.	Loving	7.	Good Looking
9.	Polite*	8.	Independent
10.	Good Looking	9.(2)	Imaginative
11.	Obedient	9.(2)	Obedient

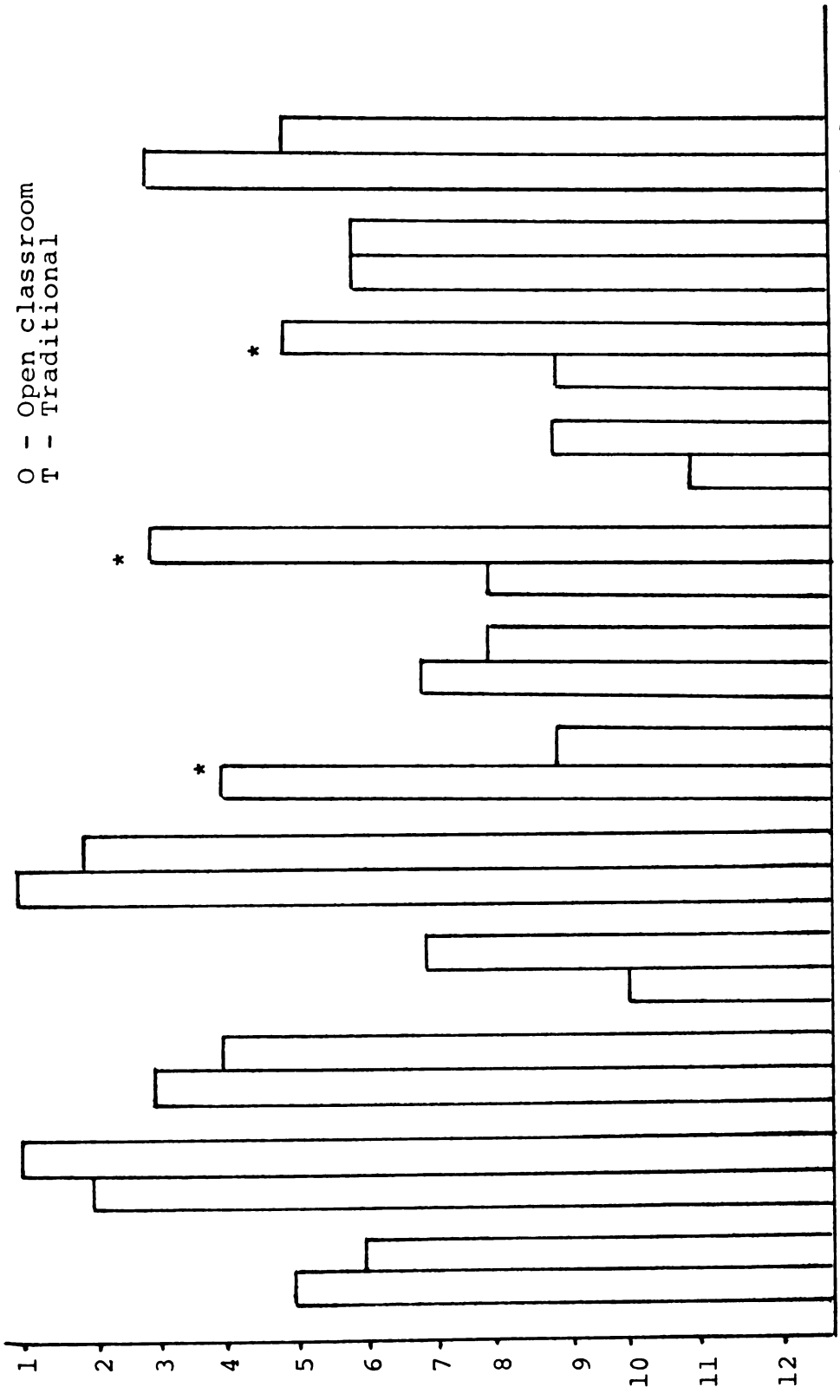

Figure 20: Rank Order of Value Survey--Seventh Grade.

Table 16

Value Survey in Rank Order--Eighth Grade

	Open Classroom		Traditional Classroom
1.	Cheerful	1.	Helpful
2.	Self Control	2.	Cheerful
3.	Forgiving	3.	Capable
4.	Independent	4.	Forgiving
5.	Helpful	5.	Responsible
6.(2)	Capable	6.(2)	Imaginative
6.(2)	Loving	6.(2)	Polite
7.(2)	Polite	7.	Self Control
7.(2)	Responsible	8.	Independent
8.	Imaginative	9.	Good Looking
9.	Obedient	10.(2)	Loving
10.	Good Looking	10.(2)	Obedient

and "self control." The open classroom subjects ranked "self control," "independent," and "loving" higher and "helpful" lower than did the traditional classroom students.

The bar graph (Figure 21) presents these results graphically.

Total

Table 17 shows the rank ordering of the various values by all subjects. "Cheerful" and "helpful" were ranked one and two, and "good looking" and "obedient" ranked ten and eleven. The only value which moved three or more places was "imaginative" which was ranked higher by the open classroom students.

Figure 22 shows these results graphically.

Returning - Not Returning

Table 18 shows the rank ordering of the values by the returning and not returning open classroom students. "Cheerful" was ranked in third place by the returning group as compared with first place in the not returning group. "Obedient" was ranked at or near the bottom by both groups. Five values show a difference of more than three places in rank order: "capable," "good looking," "loving," "independent," and "self control." There is more difference between the returning and not returning groups than there is between any of the other groups. "Self control" was ranked first by the returning group and fifth by the not returning group. "Capable" was ranked second and

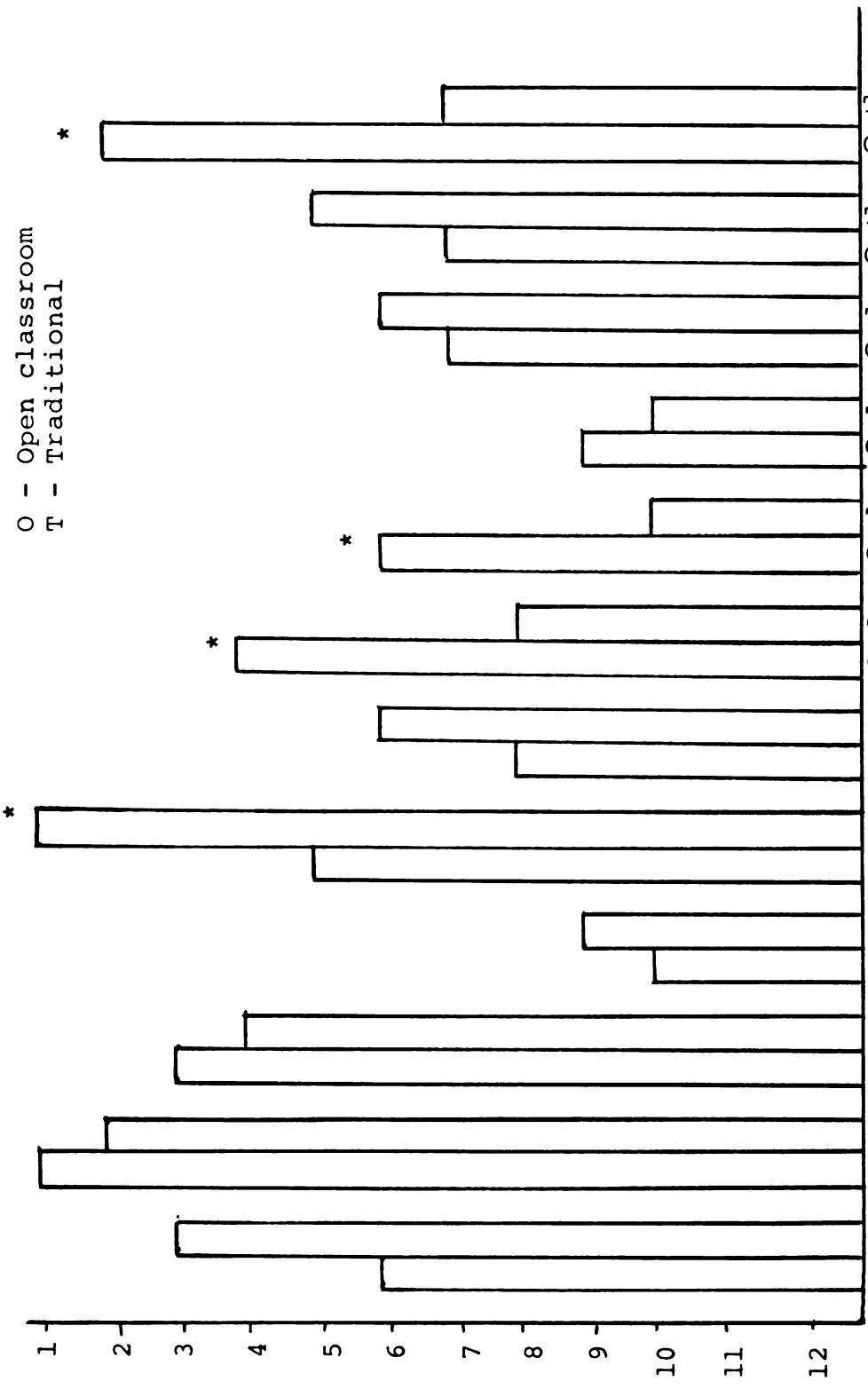

Figure 21: Rank Order of Value Survey--Eighth Grade.

Table 17

Value Survey in Rank Order--Total Open Classroom and Traditional Classroom

	Open Classroom		Traditional Classroom
1.	Cheerful	1.	Cheerful
2.	Helpful	2.	Helpful
3.(2)	Forgiving	3.	Capable
3.(2)	Self Control	4.	Forgiving
4.	Independent	5.	Self Control
5.	Imaginative	6.(2)	Independent
6.	Capable	6.(2)	Responsible
7.	Loving	7.	Polite
8.	Responsible	8.	Loving
9.	Polite	9.	Imaginative
10.	Obedient	10.	Good Looking
11.	Good Looking	11.	Obedient

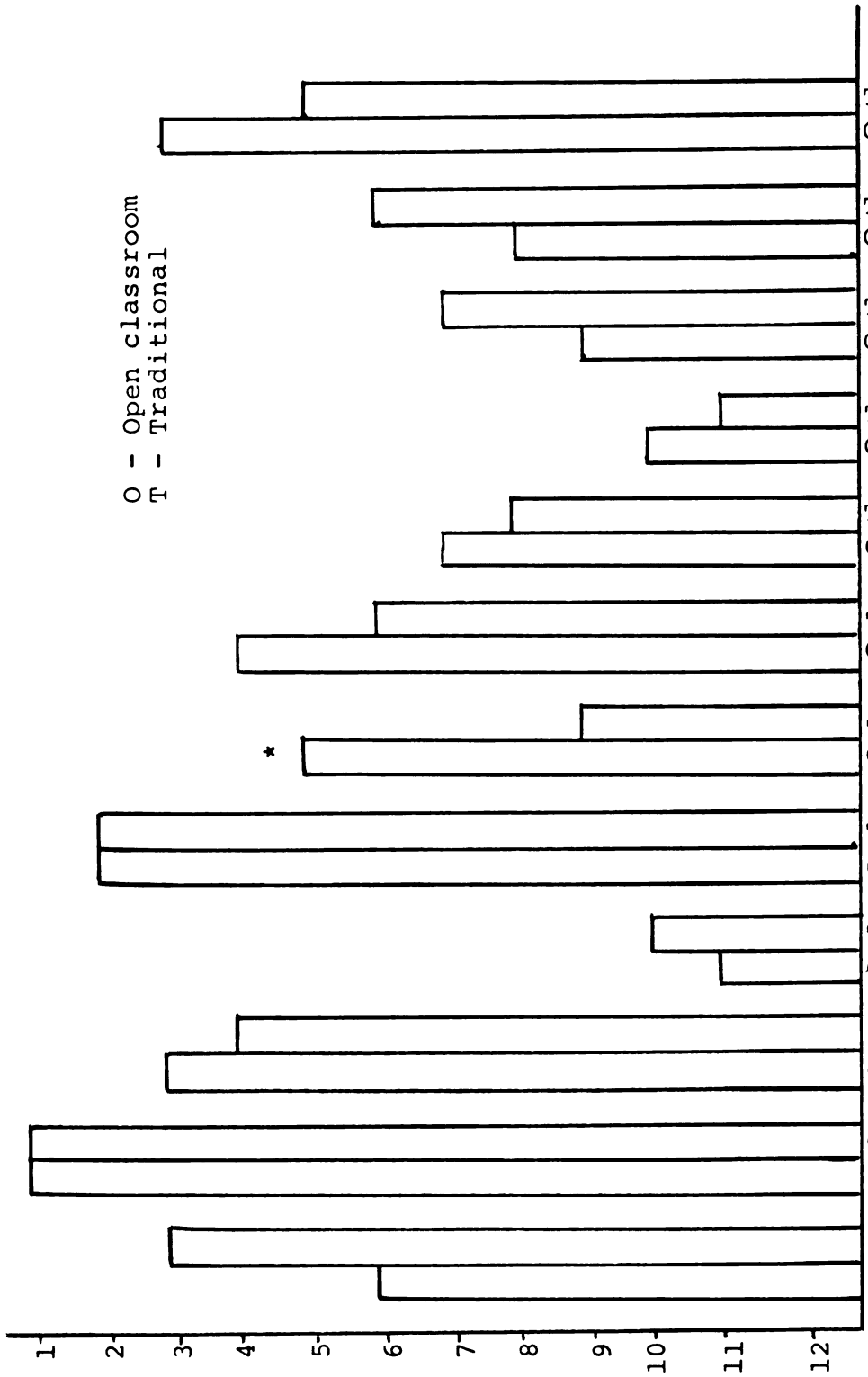

Figure 22: Rank Order of Value Survey--Total Grades.

Table 18

Value Survey in Rank Order--Open Classroom

	Returning		Not Returning
1.	Self Control	1.	Cheerful
2.(2)	Capable	2.	Helpful
2.(2)	Helpful	3.	Forgiving
3.	Cheerful	4.	Loving
4.	Forgiving	5.(2)	Good Looking
5.	Independent	5.(2)	Self Control
6.	Imaginative	6.	Responsible
7.	Responsible	7.	Imaginative
8.(2)	Loving	8.(2)	Capable
8.(2)	Polite	8.(2)	Polite
9.	Obedient	9.	Independent
10.	Good Looking	10.	Obedient

eighth, "independent" fifth and ninth, "loving" eighth and fourth, "good looking" tenth and fifth by the returning and not returning groups respectively.

Figure 23 presents these results graphically.

One Year - Two Years

Table 19 shows the rank order selected by students who had been in S.W.S. one year and two years. Both groups ranked "good looking" and "obedient" at the bottom of the list. "Cheerful" and "imaginative" almost exchanged places for the second year open classroom students.

Most groups ranked "cheerful" in the top few and "imaginative" about the middle but the second year open classroom group ranked "imaginative" second and "cheerful" eighth.

Figure 24 is a graphic representation of these results.

Value Survey by Value

In the following section the rank order of each value is presented for all groups, for example, the rank orders assigned to the value "capable" by all groups are presented on one graph (page 93).

Figures 25 through 36 are bar graphs that display graphically the rank order of all groups for the individual values.

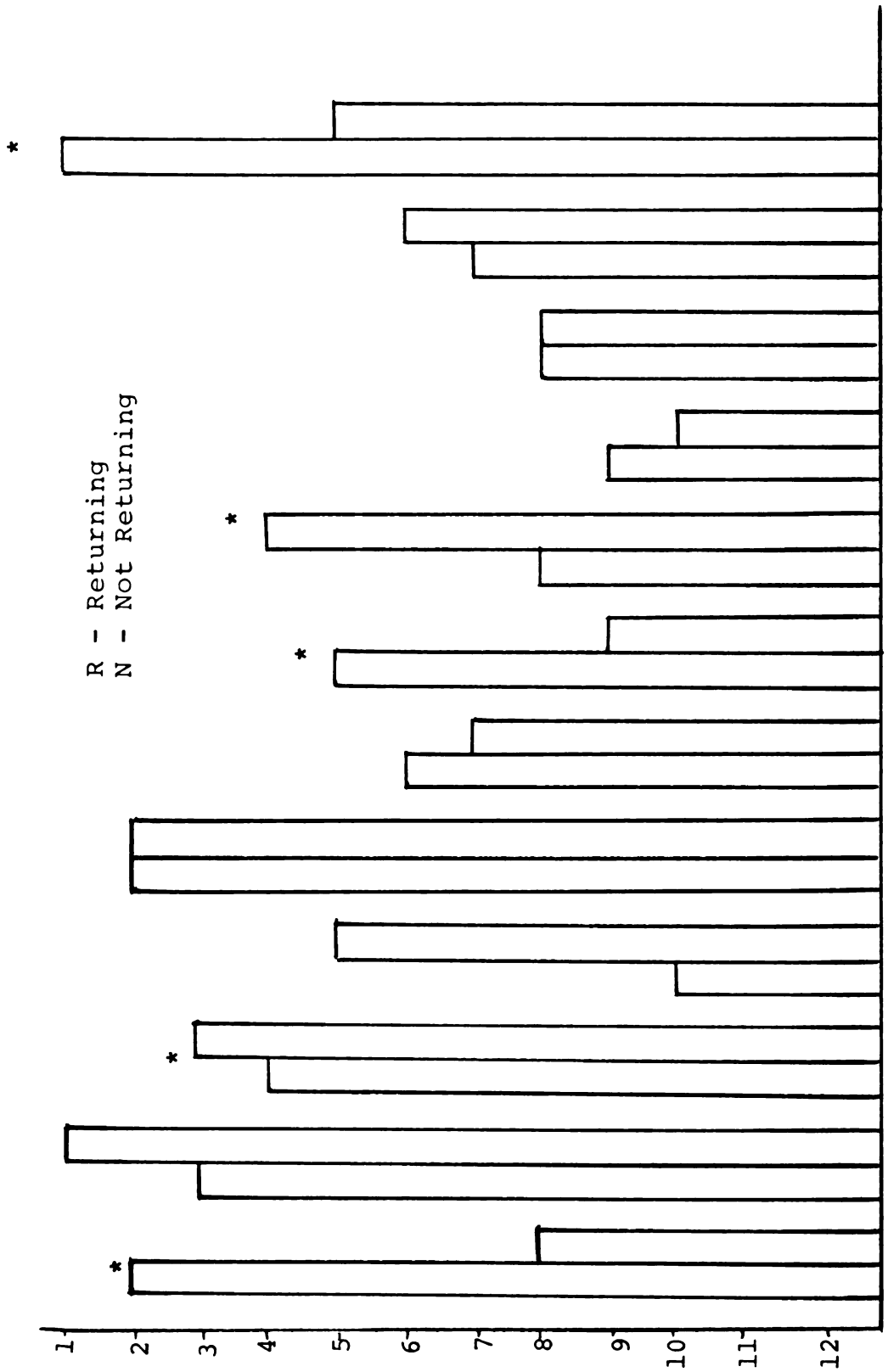

Figure 23: Rank Order of Value Survey--Returning, Not Returning.

Table 19

Value Survey in Rank Order--Open Classroom

	One-Year		Two Years
1.	Cheerful	1.	Helpful
2.	Forgiving	2.	Imaginative
3.	Self Control	3.	Self Control
4.	Helpful	4.	Indepedent
5.	Independent	5.	Forgiving
6.(2)	Loving	6.	Responsible
6.(2)	Capable	7.	Capable
7.	Imaginative	8.	Cheerful
8.	Polite	9.	Loving
9.	Responsible	10.	Polite
10.	Good Looking	11.	Obedient
11.	Obedient	12.	Good Looking

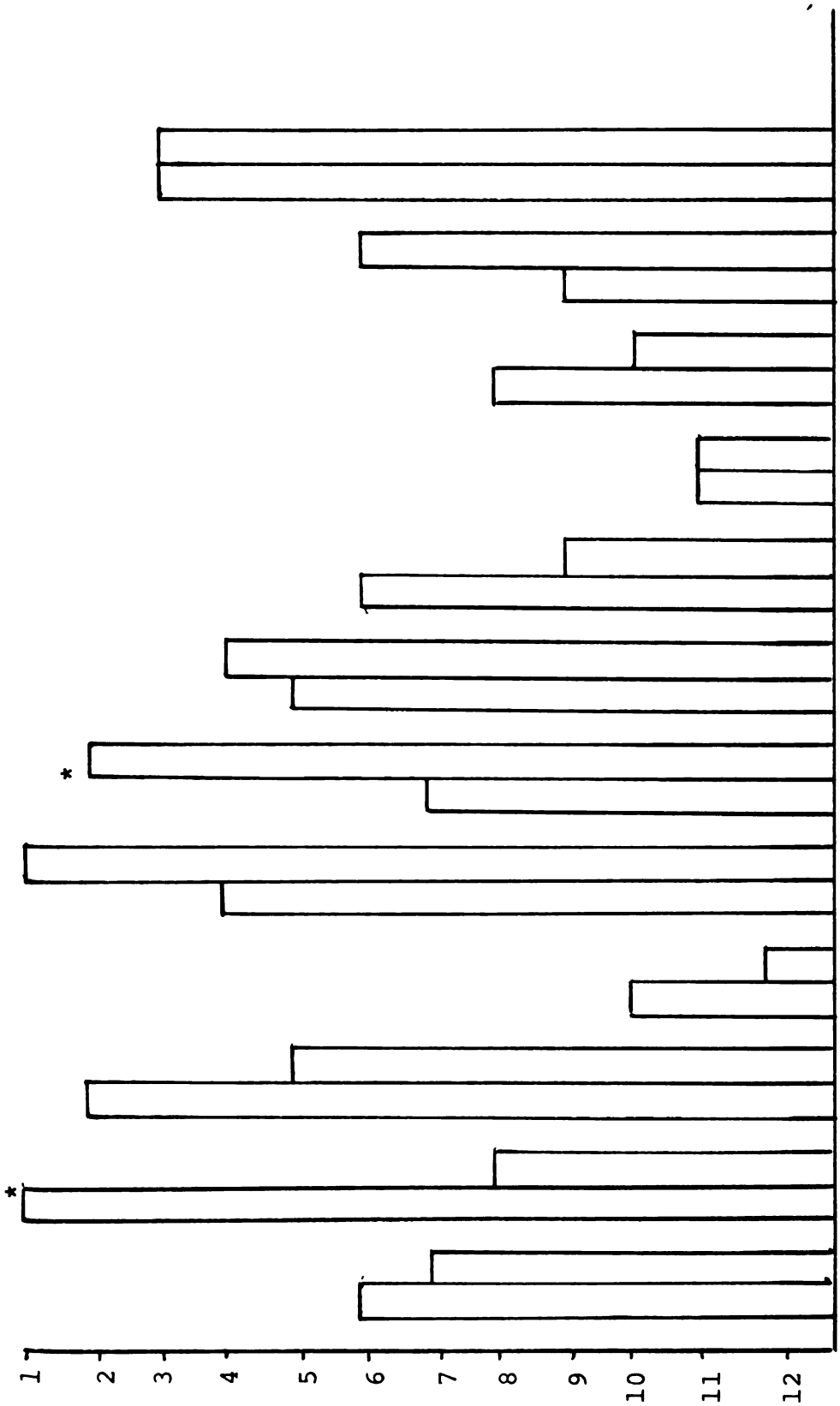

Figure 24: Rank Order of Value Survey--One Year, Two Years.

Capable

In most cases the traditional classroom groups ranked "capable" higher than did the open classroom groups (Figure 25). Returning open classroom students ranked it much higher than did the not returning group.

Cheerful

"Cheerful" was ranked in the top three by all groups except the second year open classroom students who ranked it eighth in importance (Figure 26).

Forgiving

There is very little difference shown between the groups for "forgiving" (Figure 27). The range is only from second to fifth rank.

Good Looking

In general, "good looking" was ranked low (Figure 28). The only group to rank "good looking" higher than third from the last was the not returning open classroom group who ranked it number five.

Helpful

In general, "helpful" ranked high (Figure 29). Its lowest rank of five was given by the eighth grade open classroom group.

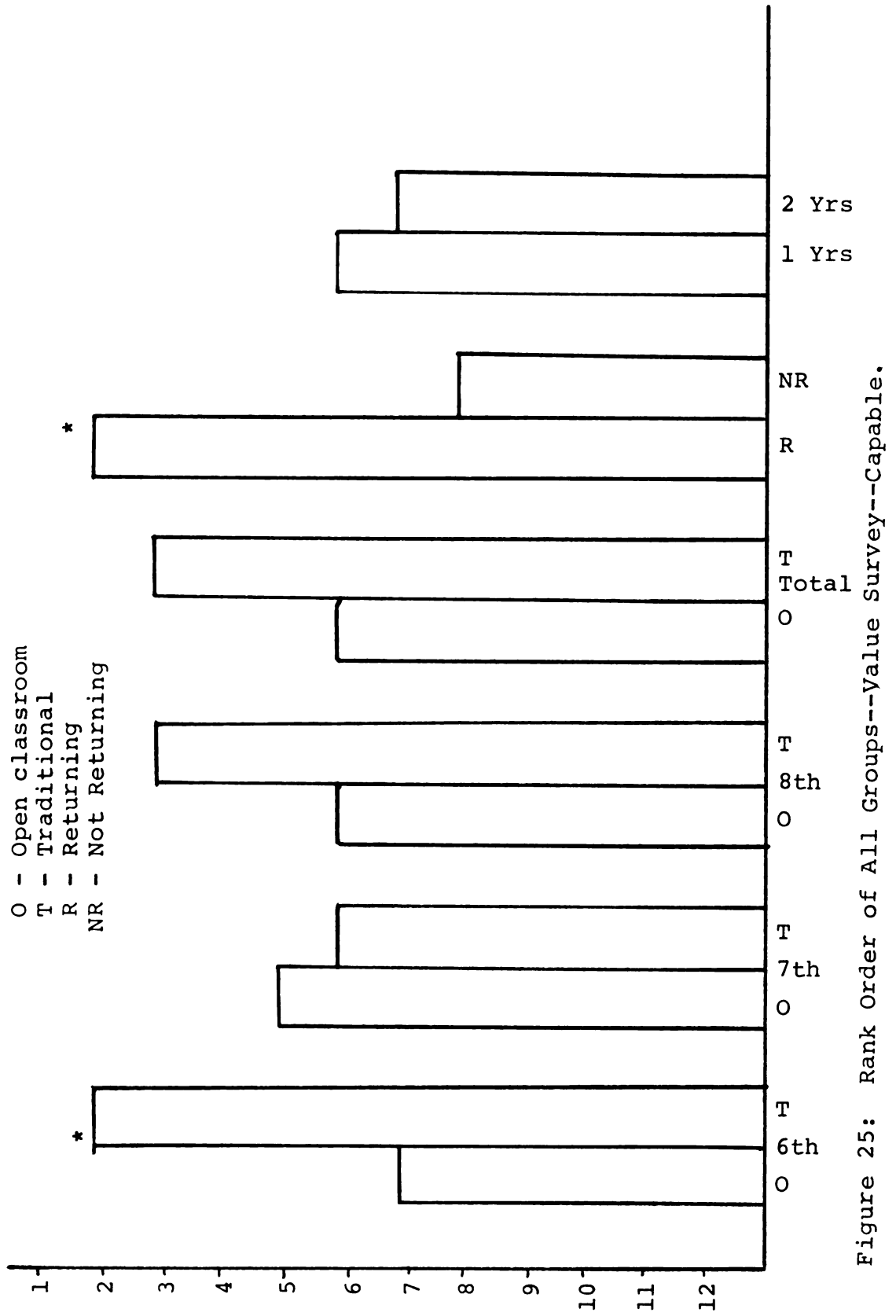

Figure 25: Rank Order of All Groups--Value Survey--Capable.

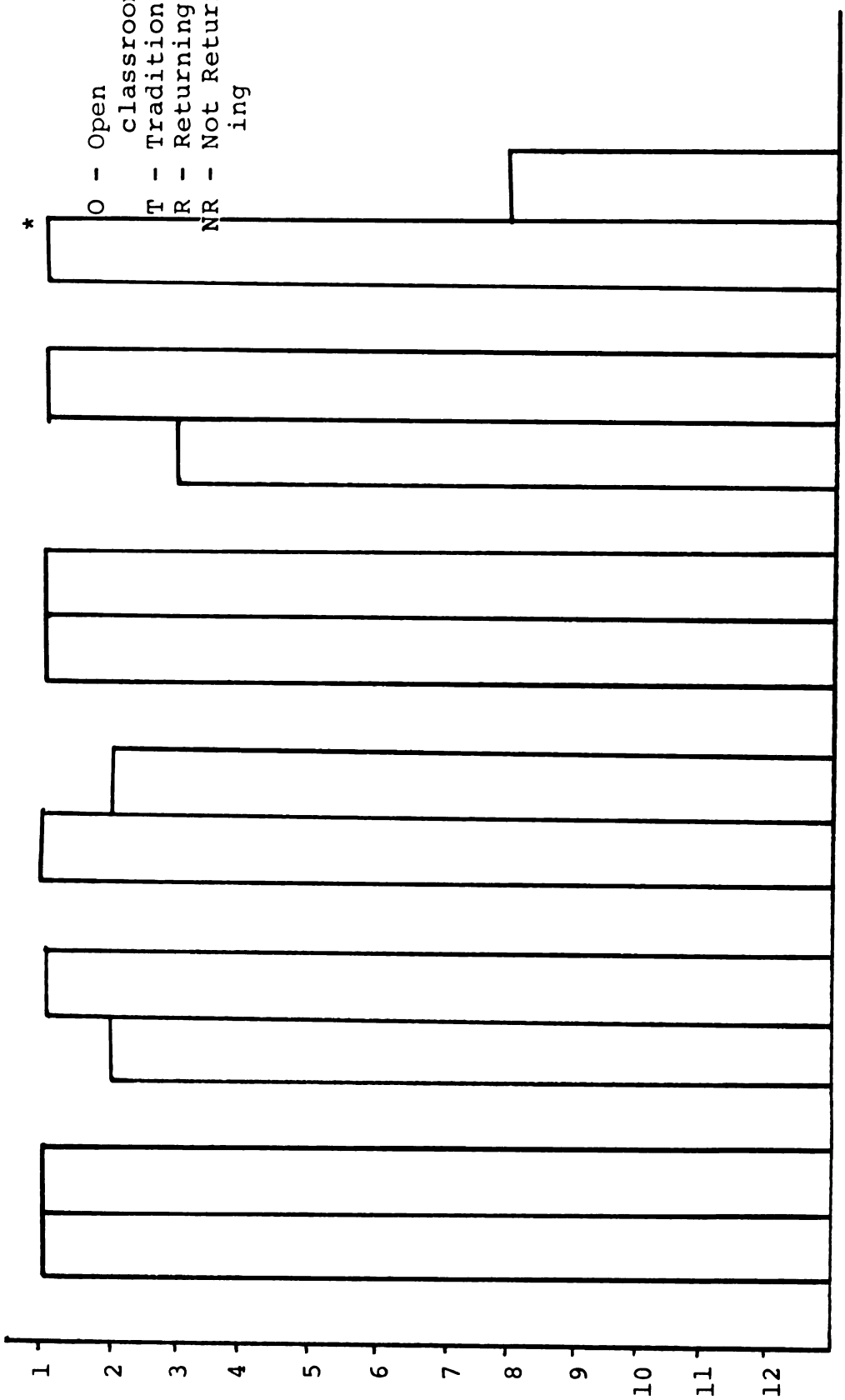

Figure 26: Rank Order of All Groups--Value Survey--Cheerful.

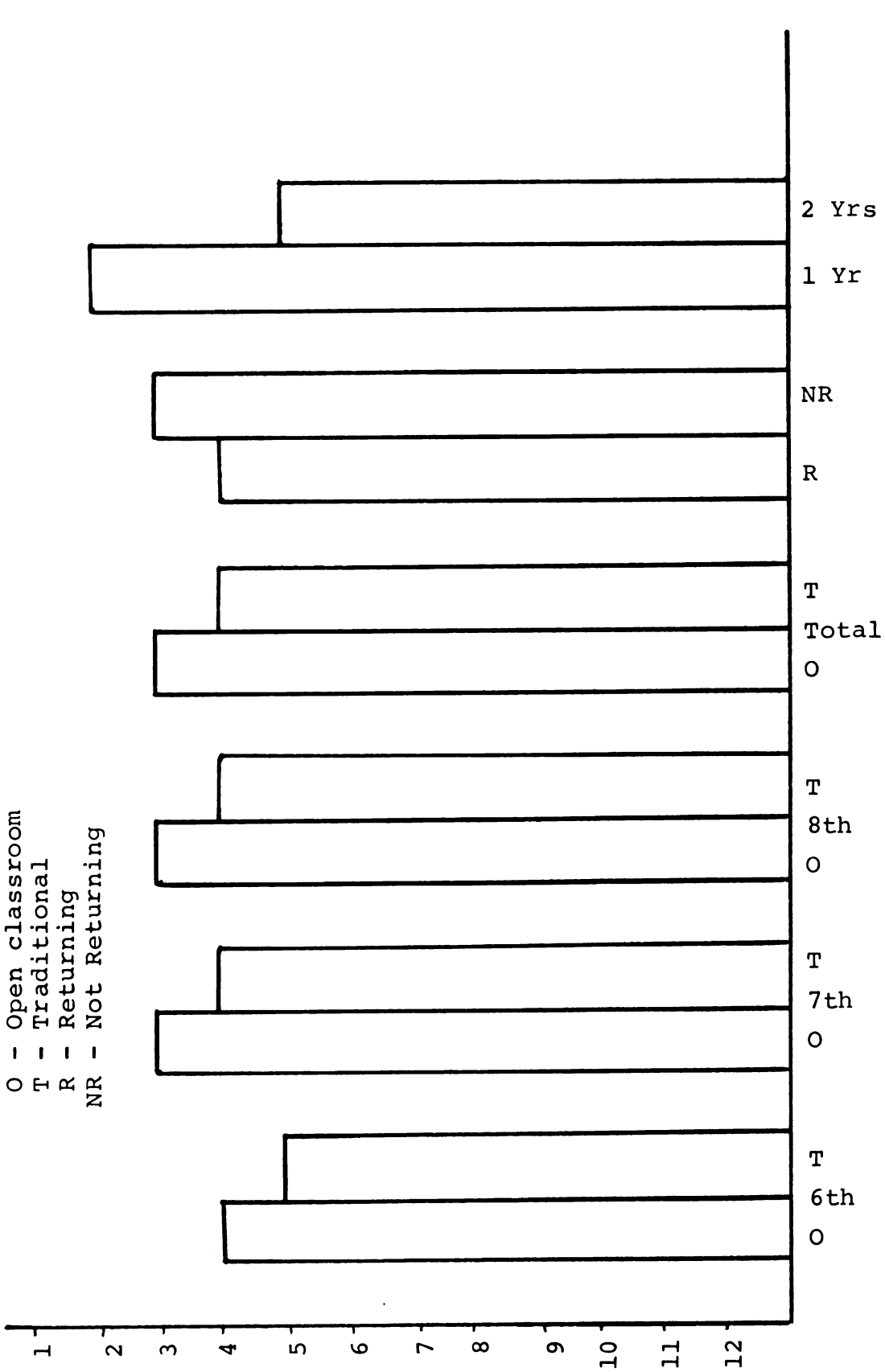

Figure 27: Rank Order of All Groups--Value Survey--Forgiving.

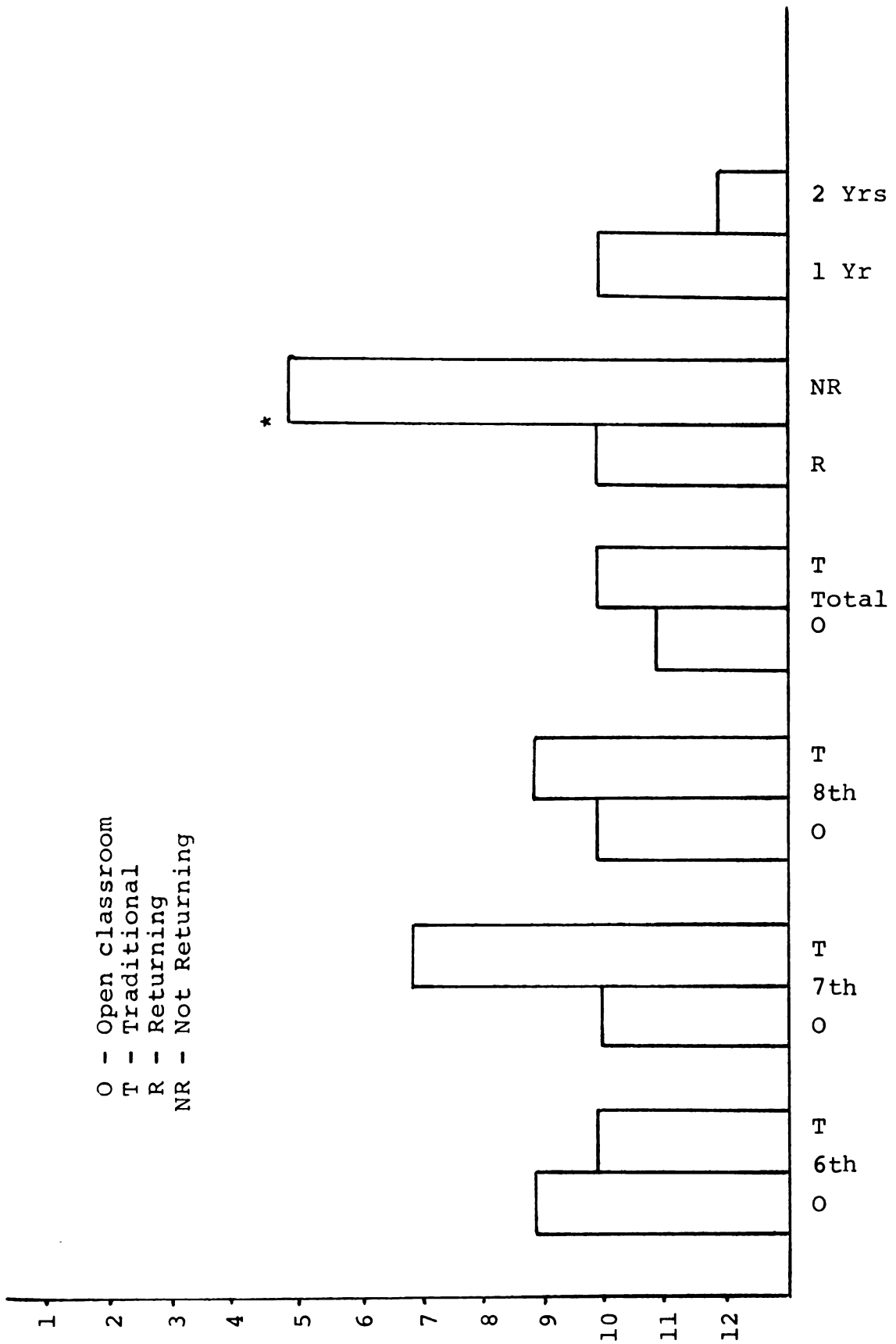

Figure 28: Rank Order of All Groups--Value Survey--Good Looking.

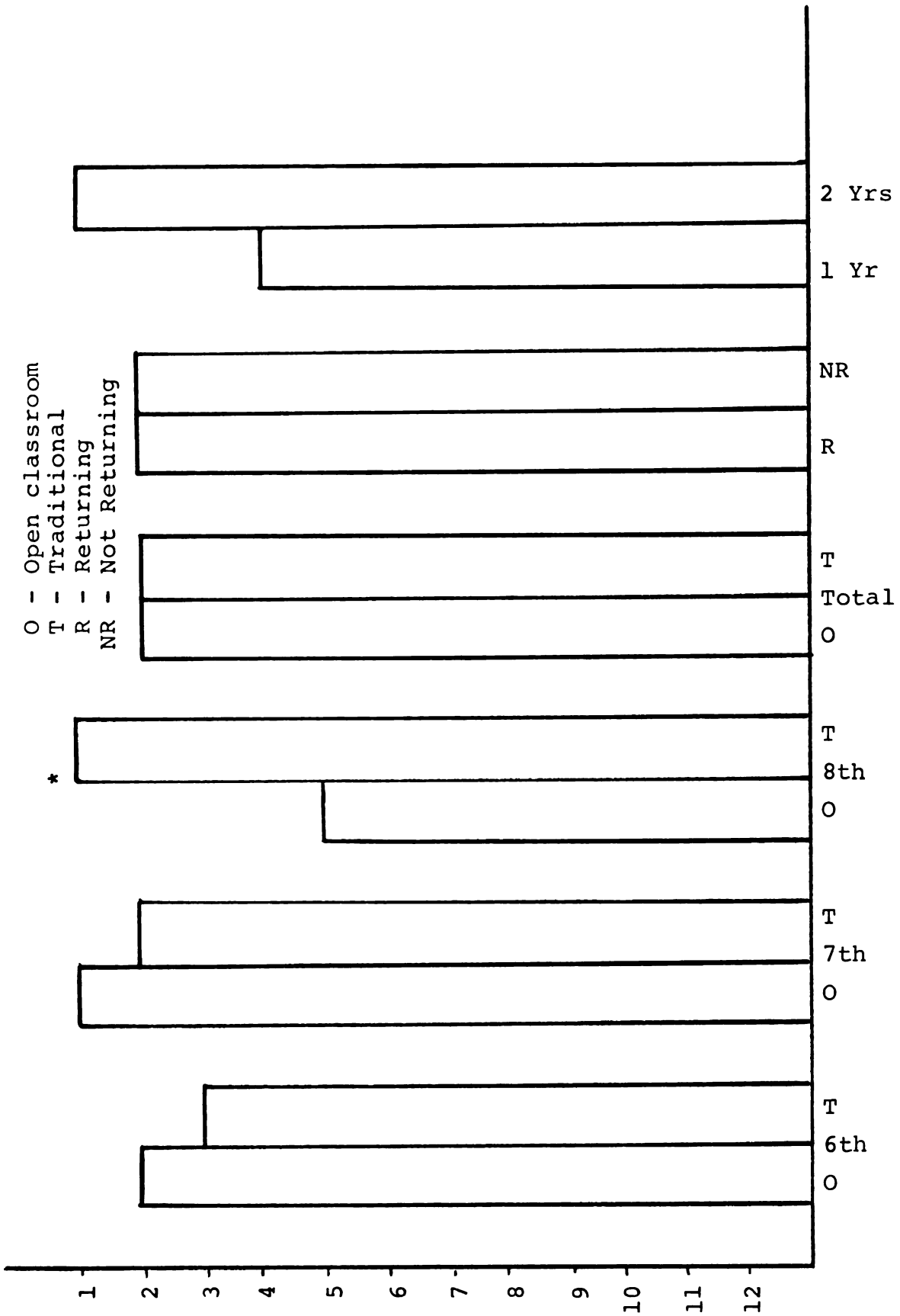

Figure 29: Rank Order of All Groups--Value Survey--Helpful.

Imaginative

"Imaginative" had a wide range, from second to ninth (Figure 30). The difference in rank order exceeded three for the seventh grade and total groups in which the open classroom students ranked it higher than did the traditional classroom groups. The second year open classroom group ranked "imaginative" much higher than the first year open classroom group did.

Independent

In the sixth grade, the traditional classroom group ranked "independent" far higher than did the open classroom group (Figure 31). In the seventh and eighth grades and the total sample, the open classroom students ranked "independent" higher. The returning students ranked it higher than the not returning students. A spread of greater than three places was found between the sixth grade groups, the eighth grade groups and the returning - not returning groups.

Loving

There is a wide range of difference in the rank order for "loving"--from third to tenth (Figure 32). A difference greater than three occurred between the seventh grade groups, the eighth grade groups, and the returning and not returning groups. "Loving" was ranked higher by the seventh traditional, eighth open, and not returning groups.

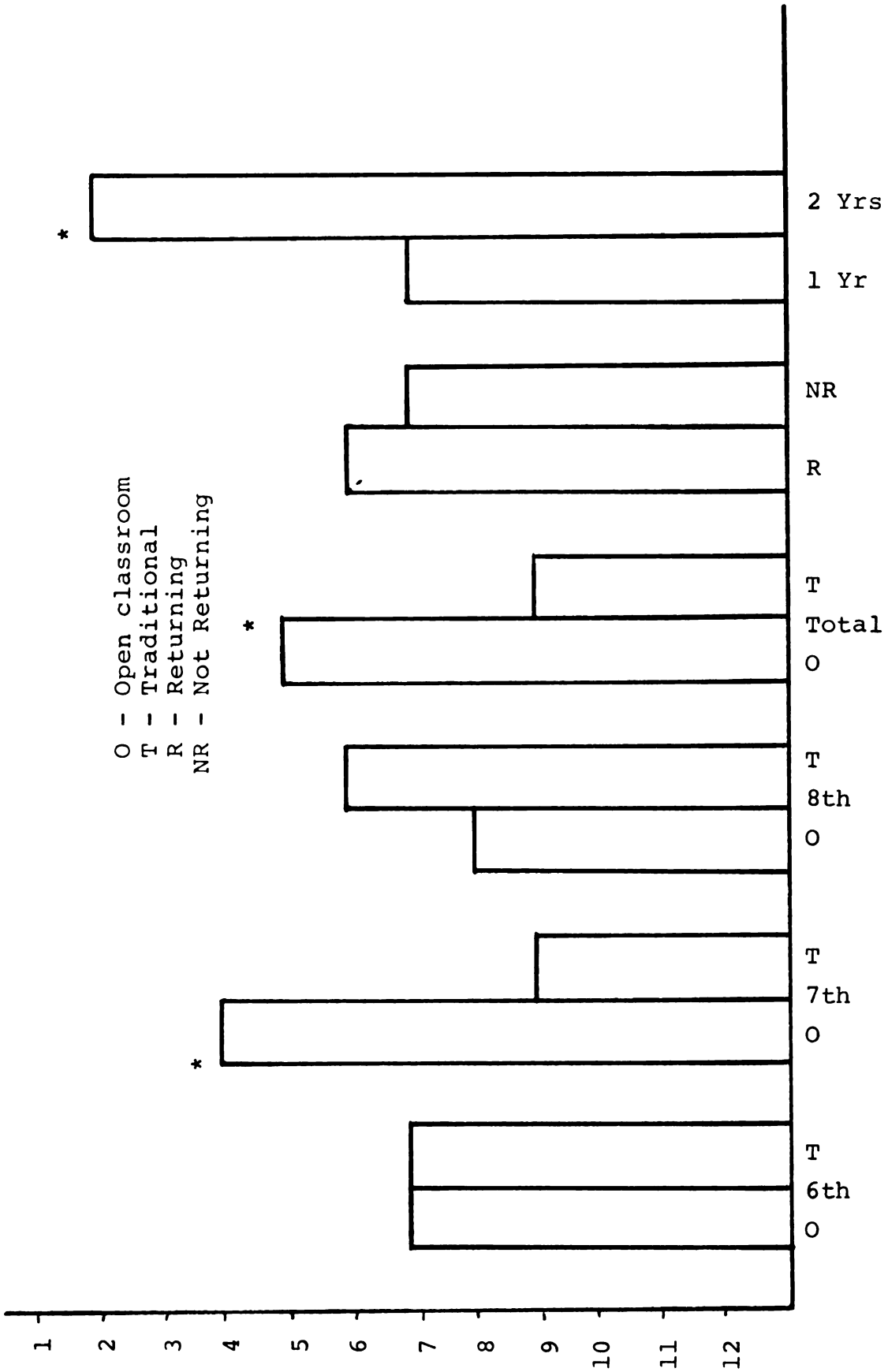

Figure 30: Rank Order of All Groups--Value Survey--Imaginative.

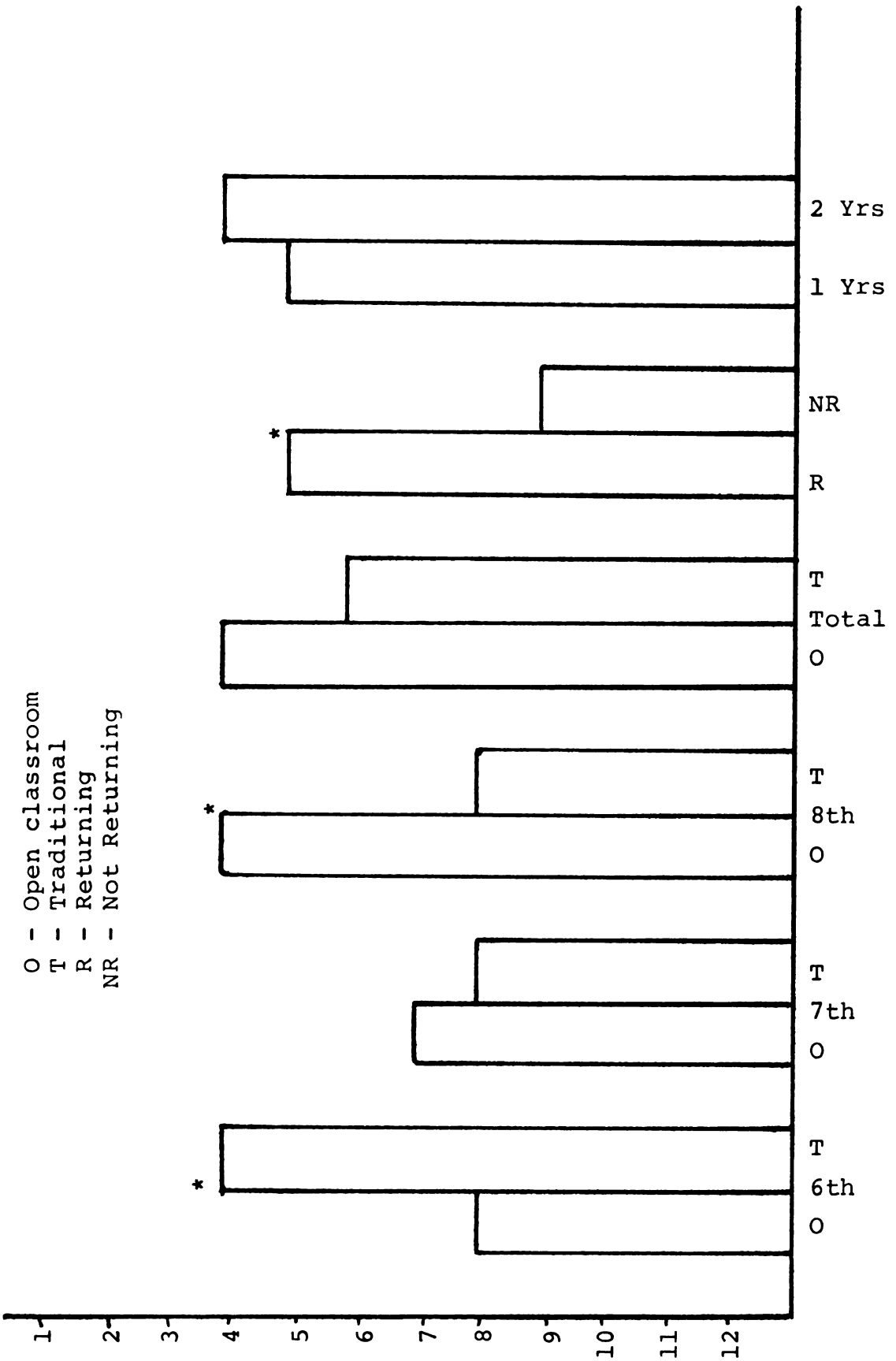

Figure 31: Rank Order of All Groups--Value Survey--Independent.

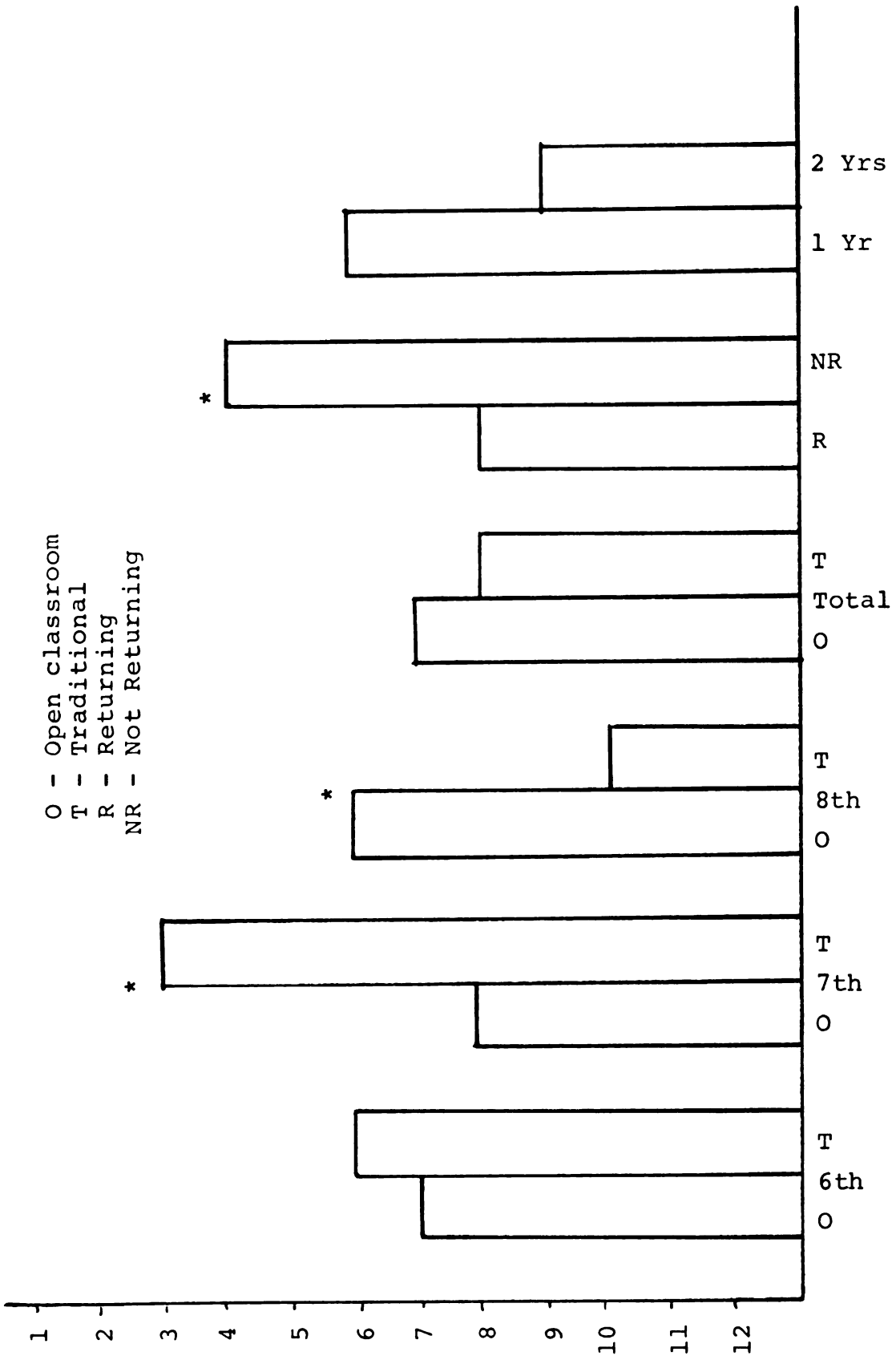

Figure 32: Rank Order of All Groups--Value Survey--Loving.

Obedient

The range is smaller for "obedient" than for any of the other values (Figure 33). All groups selected "obedient" last or second to last in importance.

Polite

Except for the sixth grade, the traditional classroom group ranked "polite" higher (Figure 34). The only difference greater than three occurred in the seventh grade.

Responsible

There was little difference between groups for "responsible" (Figure 35). All groups ranked it in the middle with a range from fifth to ninth.

Self-Control

All open classroom groups and the returning group ranked "self-control" higher than did the traditional classroom groups (Figure 36). A difference greater than three was found between seventh grade groups and returning and not returning groups.

Summary

This chapter contains the analysis of the data gathered from the attitude questionnaire and the value survey. The results of the study were presented in four sections: the attitude questionnaire by sub-test, the attitude questionnaire by group, the value survey by group,

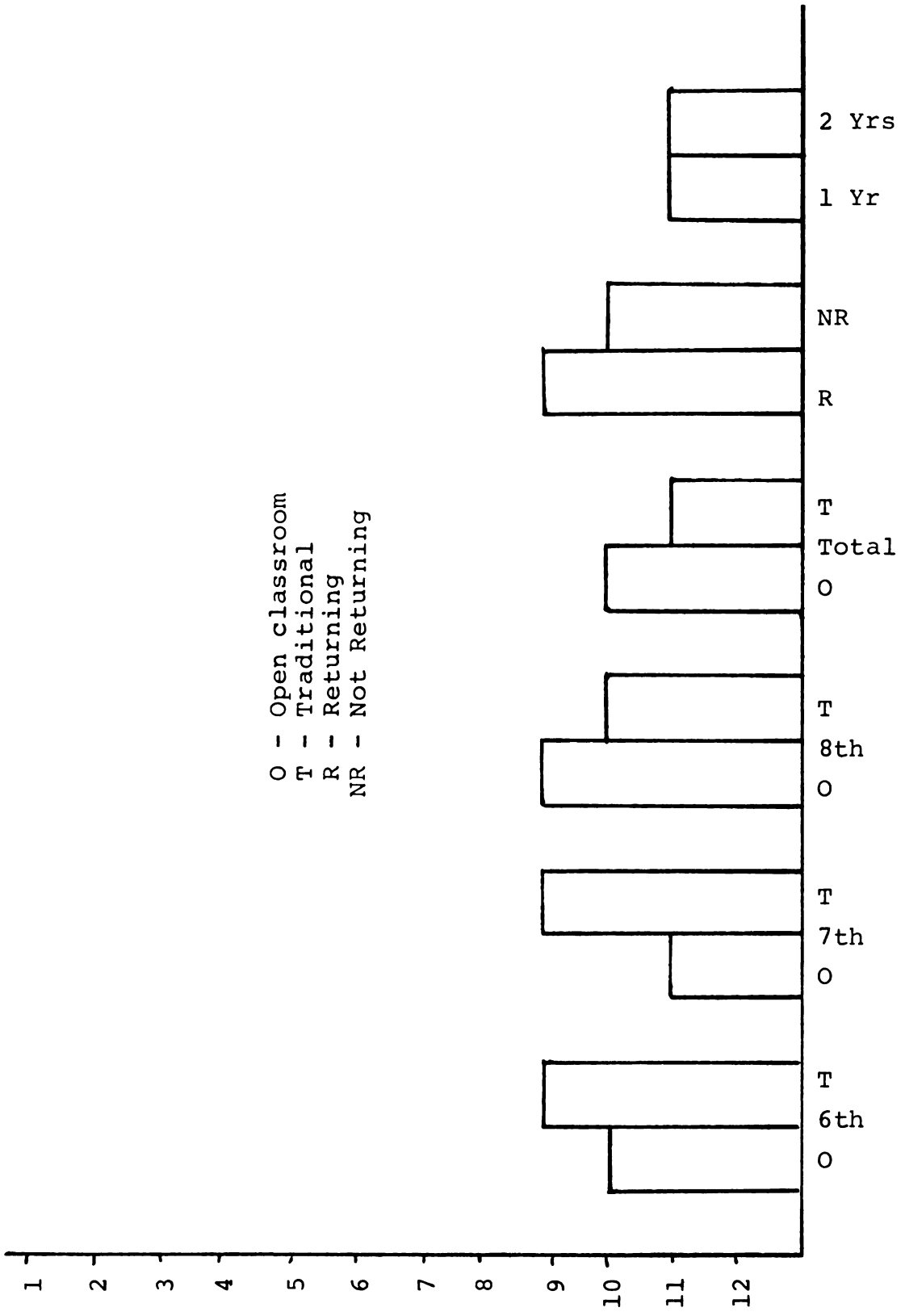

Figure 33: Rank Order of All Groups--Value Survey--Obedient.

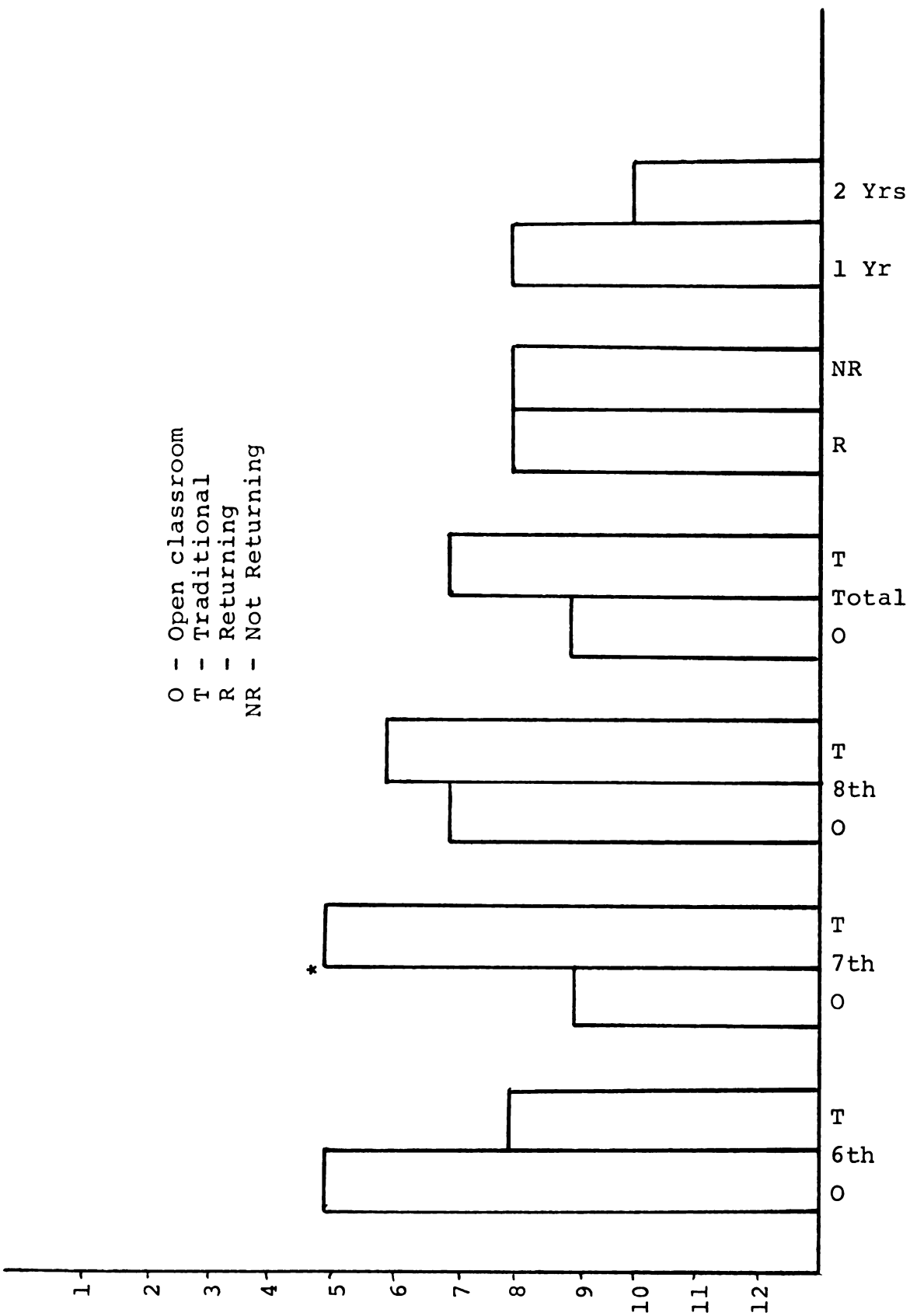

Figure 34: Rank Order of All Groups--Value Survey--Polite.

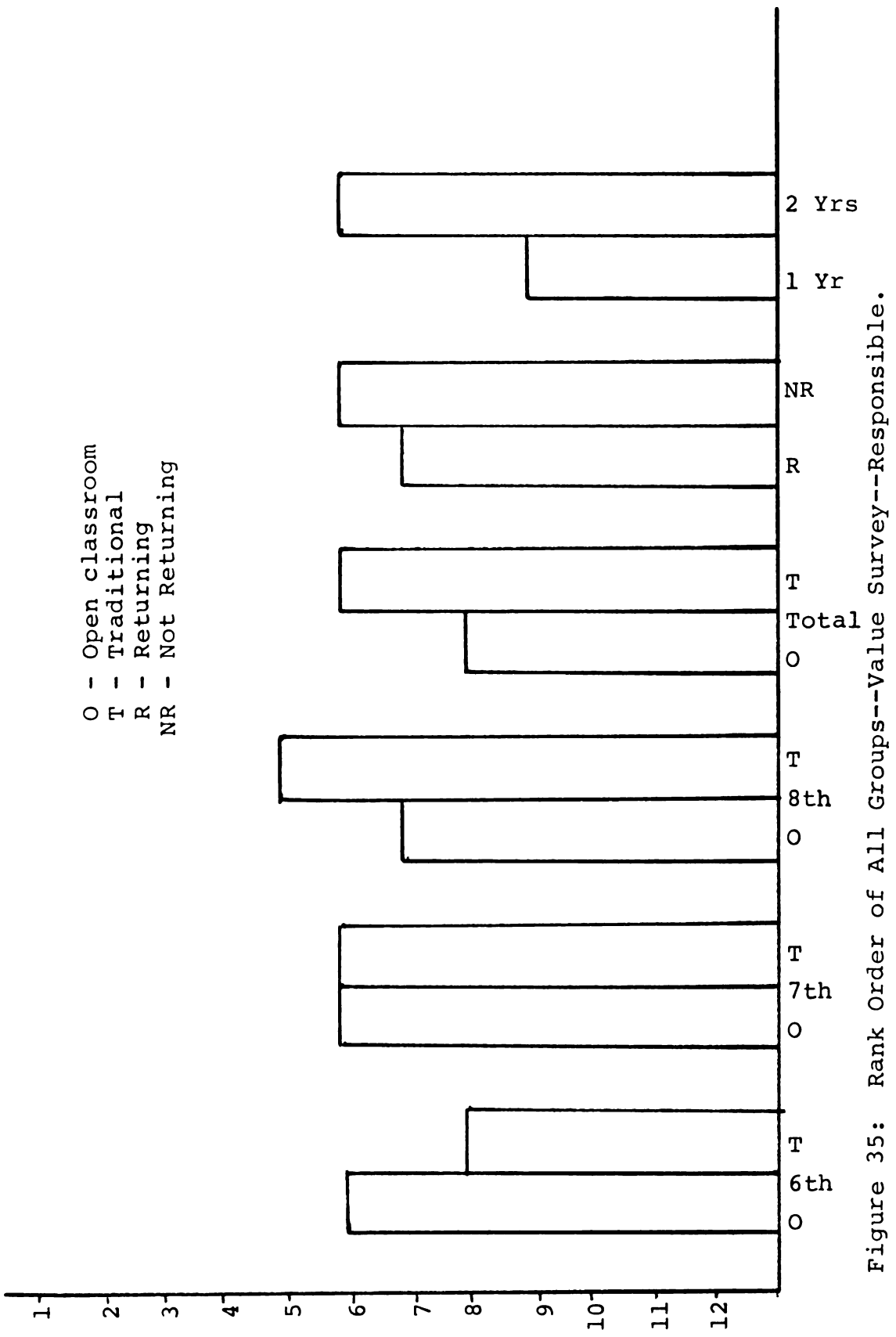

Figure 35: Rank Order of All Groups--Value Survey--Responsible.

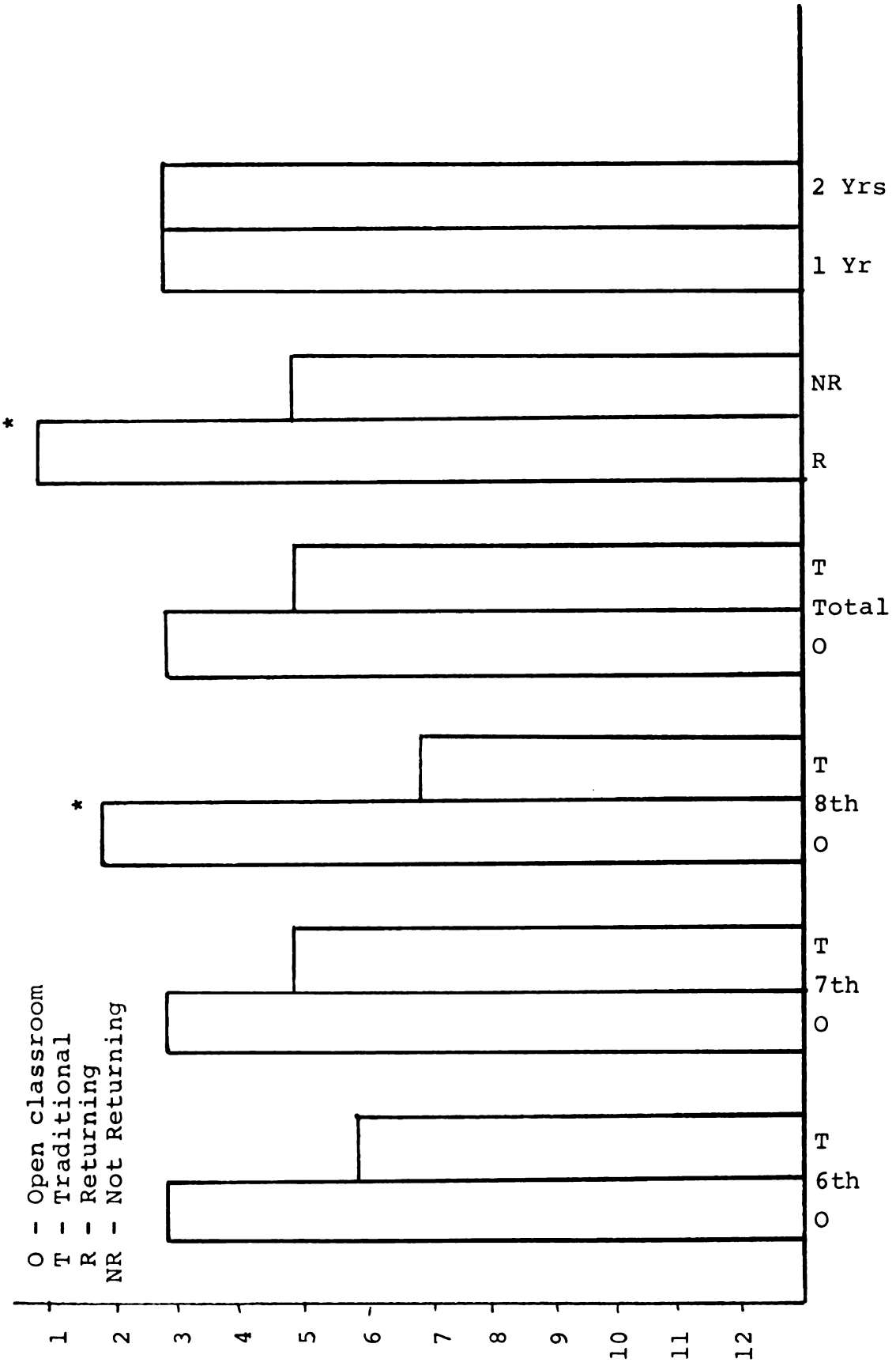

Figure 36: Rank Order of All Groups--Value Survey--Self Control.

and the value survey by value. The study revealed that there were significant differences between the open classroom and the traditional classroom groups on several of the sub-tests. On the attitude questionnaire, the open classroom groups were consistently higher on all sub-tests except "authoritarian" on which the traditional classroom groups were consistently higher. These findings were discussed in detail in the chapter both by sub-test and by group. The comparison of the combined open classroom groups with the combined traditional classroom groups showed significant differences in all but "social responsibility." These results are presented in Table 20 along with individual group differences.

The returning - not returning comparison revealed significant differences in all sub-tests with the returning group scoring higher on all sub-tests except "authoritarian" as shown in Figure 37.

For one and two year groups, no differences were found except on "satisfaction" where the first year group scored significantly higher. These results are shown in Table 20 and in Figure 38.

Where differences between open classroom and traditional classroom groups were obvious and consistent for the attitude questionnaire, such consistency of difference was not found in the value survey where the only consistency was in similarity. Comparisons between groups were discussed in detail by grade and by value in the

Table 20

Significant Difference Confidence Level

	6 Grade	7 Grade	8 Grade	Total	Returning	1,2 Years
Environment	_____	.001	.001	.001	.001	_____
Satisfaction	_____	.01	.001	.001	.01	.01
Personal Competence	_____	.02	_____	.02	.001	_____
Acceptable to Others	_____	_____	.001	.01	.01	_____
Social Responsibility	_____	_____	_____	_____	.05	_____
Authoritarian	.05	_____	.001	.001	.01	_____

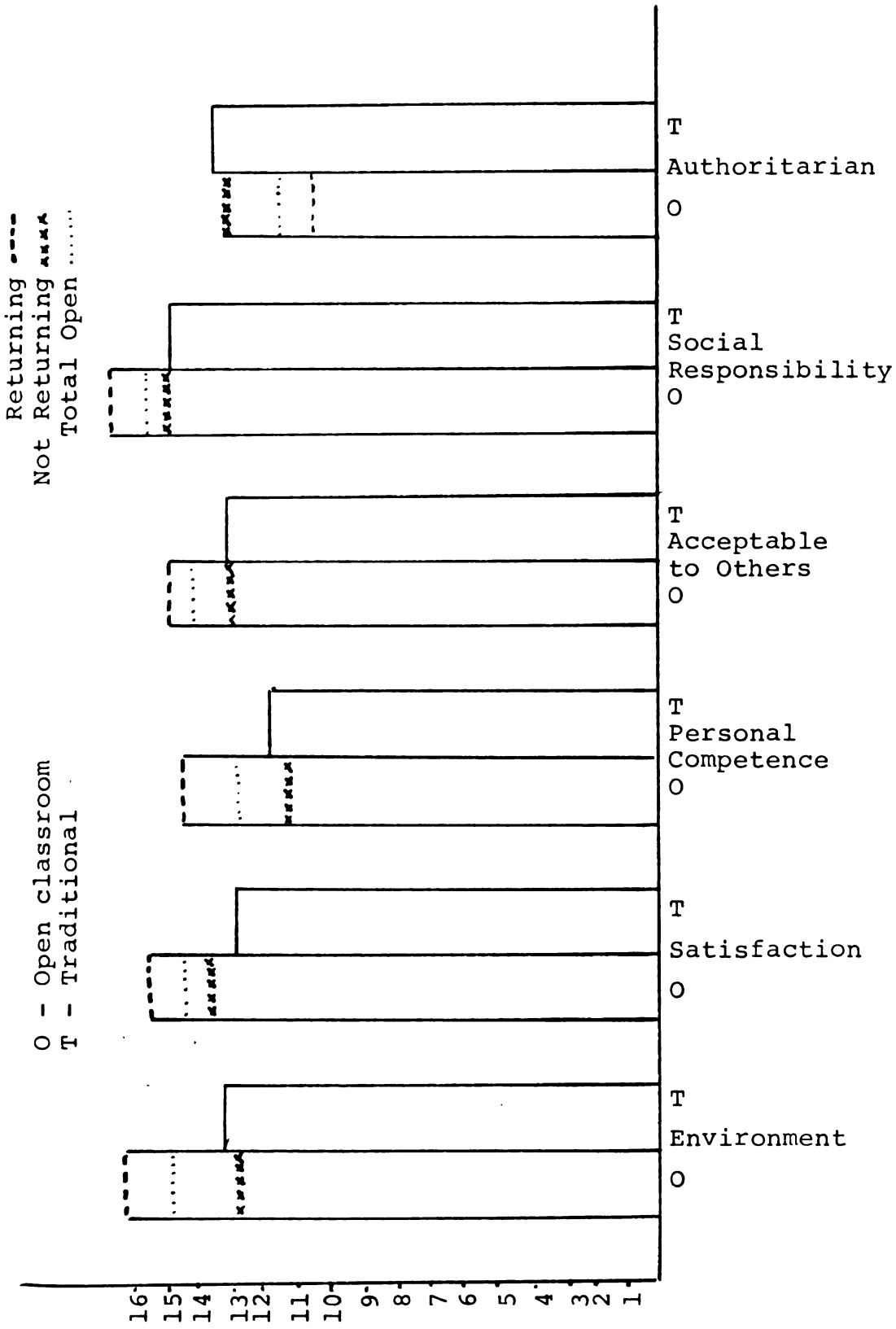

Figure 37: Attitude Questionnaire for All Sub-tests--Returning, Not Returning and Totals.

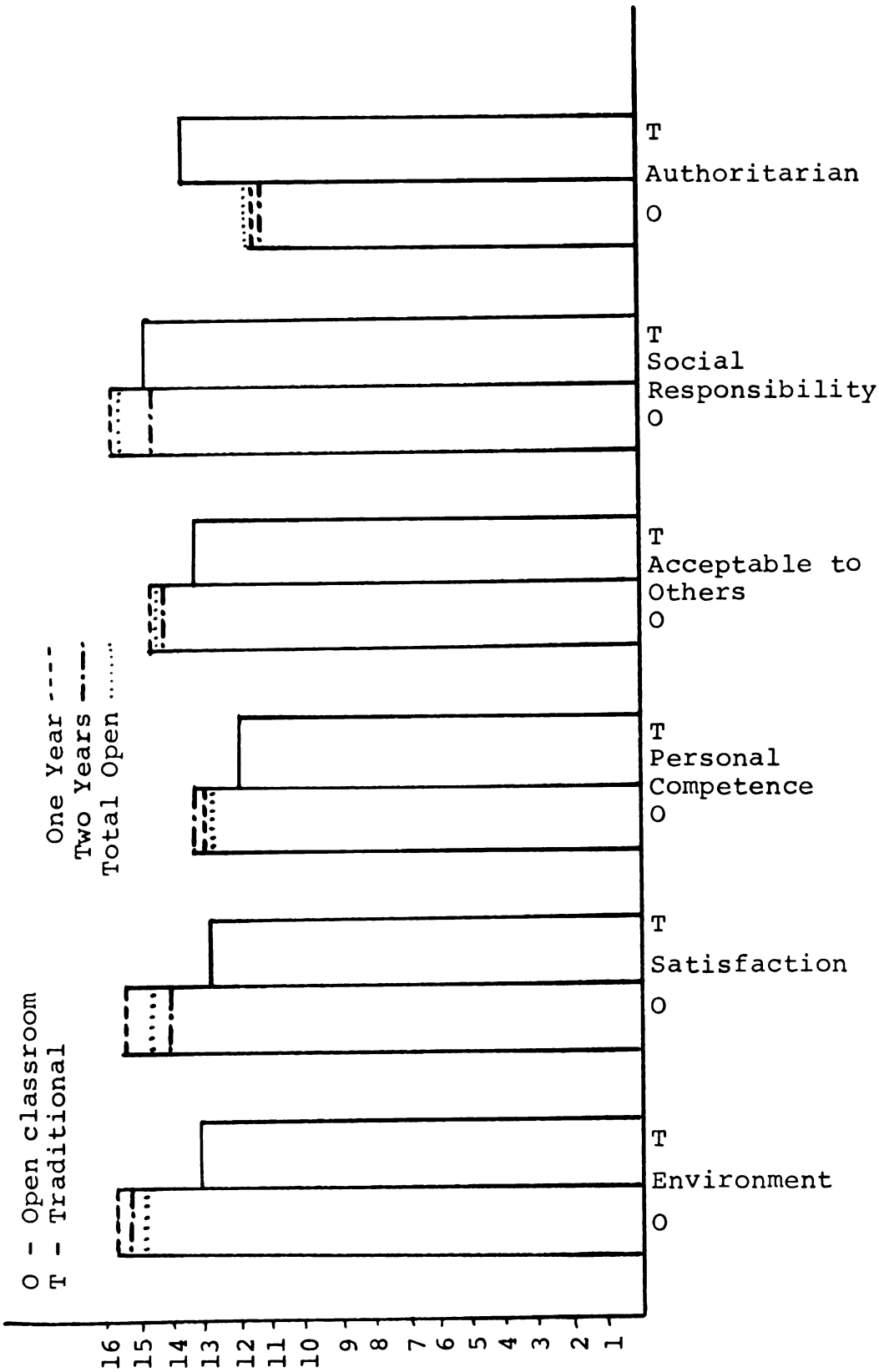

Figure 38: Attitude Questionnaire for All Sub-tests--
One Year, Two Years, and Totals.

chapter and are shown in Table 13 (page 76). The comparison of the combined open classroom groups with the combined traditional classroom groups showed a difference in rank order of more than three places for "imaginative" only.

The returning - not returning comparison showed a difference of more than three places in rank order for "capable," "good looking," "independent," "loving," and "self-control." "Capable," "independent," and "self-control" were rated higher by the returning students and "good looking" and "loving" were rated higher by those students not choosing to return.

In the one year - two year comparison, the one year group rated "cheerful," much higher than did the second year group. For the two year group, "imaginative" was rated much higher. The other values showed little difference. A summary graph (Figure 39) provides an overview of the differences in rank order of the values by all groups.

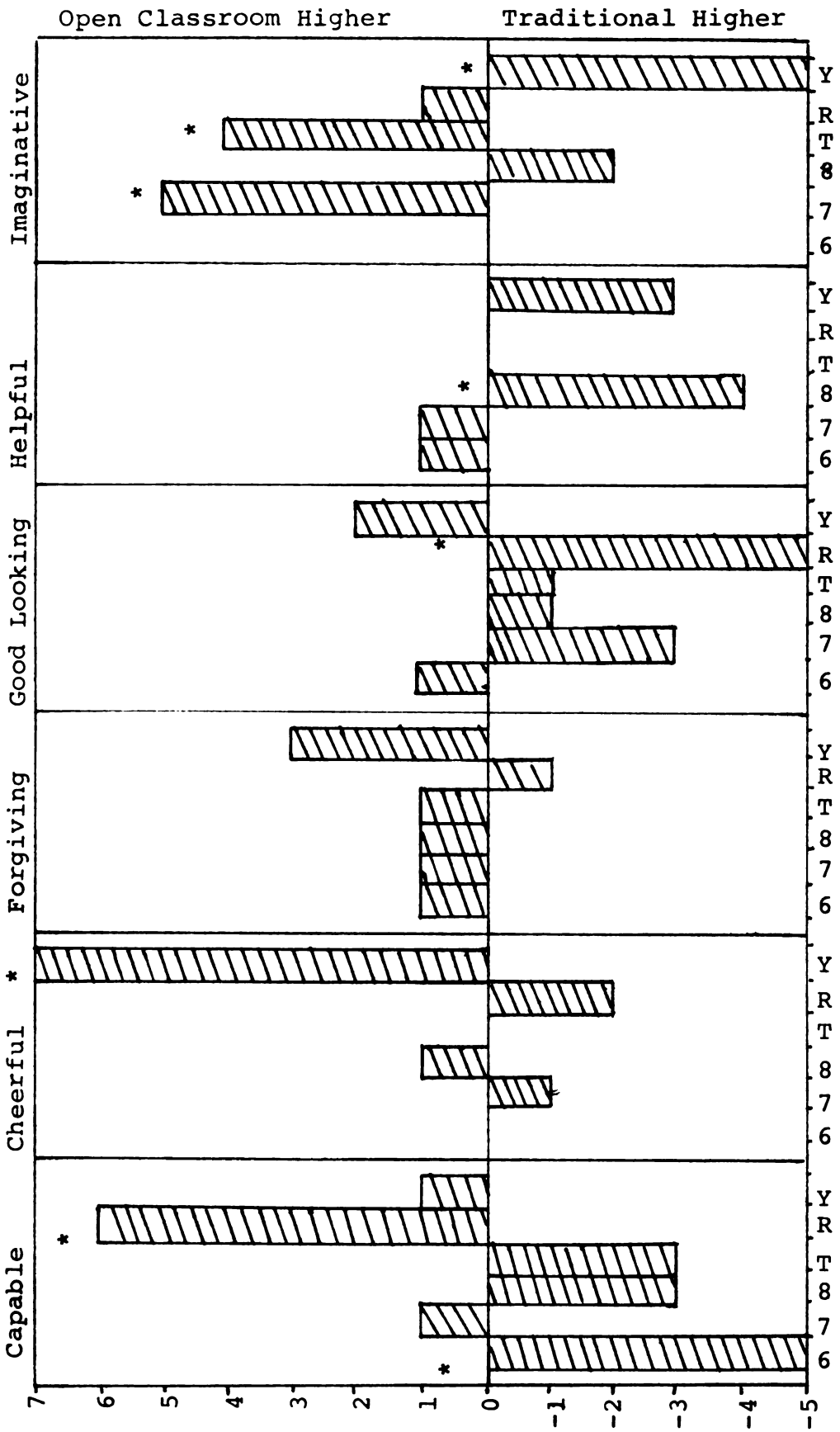

Figure 39: Differences in Rank Order--Value Survey.

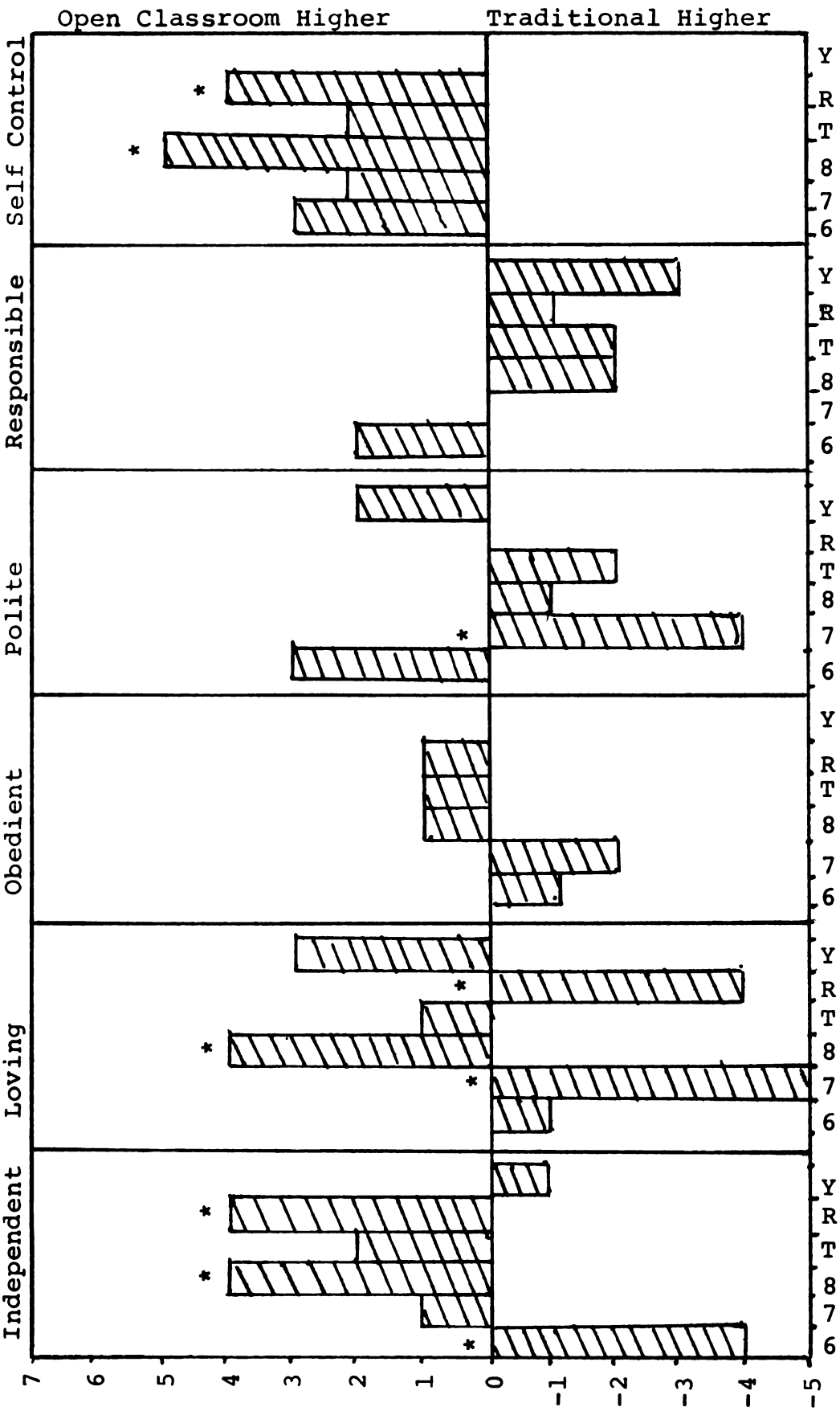

Figure 39 (Cont'd.): Differences in Rank Order--Value Survey.

CHAPTER V

SUMMARY AND CONCLUSIONS

Summary

Open education is an educational approach established in Britain and growing in the United States. Its advocates claim that open education promotes positive self-concept, social sensitivity, and other positive social and psychological attitudes. If this is so, students who have functioned well in an open classroom setting should presumably display characteristics different from their peers in regular classes. The present study is an attempt to determine and measure differences in social-psychological attitudes between students in an open classroom in Kinawa Middle School, Okemos, Michigan, and students in regular classes in the same school.

The concepts of "open classroom" and "traditional classroom" are made explicit for purposes of the present study by application of the Evans Classroom Observation Rating Scale. Both types of classroom in Kinawa fall within close range of norms established by Evans for open and traditional classrooms in America.

A review of the literature revealed that while philosophical rationale for open education is abundant,

solid research is severely limited. Most research projects failed to reveal significant differences between "open" and "traditional" models of education but much of the research undertaken in the name of "open education" involves an imprecise or even faulty definition of open education.

The present study makes use of two instruments--an attitude questionnaire and a value survey--in order to determine and measure differences in social-psychological attitudes between open classroom and traditional classroom students in Kinawa Middle School.

The open classroom subjects were all the open classroom or "School Within a School" students in Kinawa. The traditional classroom subjects were randomly selected from the other classes within the school.

The attitude questionnaire and the value survey were administered to all subjects.

On the attitude questionnaire, the open classroom groups were consistently higher on all sub-tests except "authoritarian" on which the traditional classroom groups were consistently higher. The comparison of the combined open classroom groups with the combined traditional classroom groups showed significant differences in all but "social responsibility."

The returning - not returning comparison revealed significant differences in all sub-tests with the returning

group scoring higher on all sub-tests except "authoritarian."

For one and two year groups, no differences were found except on "satisfaction" where the first year group scored significantly higher.

Consistency of difference was not found in the value survey. Comparison of the combined open classroom groups with the combined traditional classroom groups showed a difference in rank order of more than three places for "imaginative" only.

The returning - not returning comparison showed that the returning students ranked "capable," "independent," and "self control" three or more places higher than did the not returning students. The reverse was true for "good looking" and "loving."

In the one year - two year comparison, the one year group rated "cheerful" much higher than did the second year group. For the two year group, "imaginative" was rated much higher. The other values showed little difference.

Conclusions

Advocates of open education claim that students who have functioned successfully in the open classroom setting should display characteristics different from those of their peers in traditional classes.

The present study, in comparing the open classroom totals with the traditional classroom totals, reveals

significant differences in all sub-tests except "social responsibility" and higher ratings by the open classroom students on all sub-tests except "authoritarianism." These results indicate that either the open classroom experience has a significant influence on the social-psychological attitudes of students, or, that the existence of a priori attitude differences results in success and satisfaction with the open classroom. There seems to be a lack of definitive information on which to base a judgment regarding these two possibilities. However, in examining the sixth grade figures it appears that there is no a priori difference except perhaps in "authoritarianism" where the students who selected the open classroom scored significantly lower, to the .05 level of confidence. Perhaps a test measuring "authoritarianism" would be a predictor of satisfaction and success in an open classroom environment. Further research is needed to substantiate this suggestion.

The value survey failed to reveal any consistent pattern of differences between groups. Perhaps the reason that differences are lacking here and present in the attitude questionnaire lies in the difference between the two instruments. The value survey forces the subject to evaluate the values in relationship to each other rather than to evaluate the importance of each value independently. It is possible on the attitude questionnaire to rate every

value equally high, whereas the value survey forces a last place value.

There are more differences between returning and not returning groups on the attitude questionnaire than there are between any of the open classroom and traditional classroom groups. This is the only comparison that shows significant differences for all sub-tests. The grade comparisons and total comparisons included in the open classroom groups,the students who were not planning on returning, whereas the returning - not returning comparison separated them. In all cases the not returning students scored significantly lower than the returning students, thus lowering the means for the total open classroom groups.

The not returning group scores were very much like those of the traditional classroom group (Figure 37, page 109), which may explain their choice of returning to the traditional classroom. Rather than the open classroom experience functioning as a "weeding-out" or "weeding-in" process perhaps it would be less disrupting and upsetting to the students if a valid predictor of open classroom success were devised. This is another indication of the need for further research in this area.

Again the value survey failed to reveal any consistent pattern of differences.

The one and two year comparison was made in order to determine whether length of time in the open classroom

affected the students' attitudes and values. Very little difference was found between the two groups. Both first and second year groups scored on the attitude questionnaire more like the total open classroom group than the total traditional classroom group--high on all sub-tests except "authoritarian" (Figure 38, page 110). The only significant difference shown was on "satisfaction" in which the first year students were measured higher than the second year students. This seems contrary to the expectation of open classroom educators but should not be cause for concern because the second year students rated "satisfaction" high also and it is possible that the difference was due to the Hawthorne effect. It appears that length of time had very little effect on the subjects in the present study.

The value survey adds little to the conclusions.

Further Research

Before any further research in open education is attempted, new devices and techniques must be developed and tested which can adequately measure all aspects of the affective domain. It is insufficient to reveal the existence of differences in attitudes in open classroom students. Causes for these differences must also be determined in future research.

If open classroom experience does lead to attitude change, it seems logical that the more time spent by

students in the open environment the greater would be the attitude change. This assumption was not borne out in the present study and additional research with more effective instruments is needed to re-examine the assumption.

One interesting possibility emerges from the present study. The researcher would like to examine an extension of the "authoritarian" sub-test to see if it could function as a valid predictor of open classroom success. The "authoritarian" instrument would be administered to incoming open classroom students and their parents in a longitudinal study to determine the correlation between "authoritarian" scores and satisfaction and success in the open classroom. A high negative correlation would indicate that this one instrument could be a predictor of open classroom success. Trial and error selection which sometimes results in frustration and disillusionment for students, parents, and teachers might be alleviated. This should not be used as an exclusive selection procedure but rather as a counselling device. Any arbitrary decision which eliminates free choice by the student is contrary to the basic concept of open education.

We lack the instrumentation and technology to accurately measure something as complex as human attitudes and values. Perhaps it is not as important to prove open education superior to traditional education or vice versa, as it is to accept that they are both viable alternatives to learning.

Since this study took place, Kinawa Middle School has developed three learning alternatives from which students, in counsel with parents, can select:

1. A self-contained classroom in which all decisions about what is taught and learned, when and how are made by the teacher.

2. A team-taught block with four teachers and one hundred twenty students in which the students are given a number of options. The decisions are made in a more or less democratic way with input from both students and teachers.

3. An open classroom, in which the students make the decisions about what will be learned and how and when it will be learned.

There is ample evidence that children learn in many ways and in many environments with little conclusive proof that any given method or environment is superior. Any learning alternative which produces happy youngsters, happy teachers, and satisfied parents should be made available.

APPENDICES

APPENDIX A

EVANS CLASSROOM OBSERVATION RATING SCALE

	no evidence	weak infrequent	moderate occasional	strong frequent evidence
1. Texts and materials are supplied in class sets so that all children may have their own.				
2. Each child has a space for his personal storage and the major part of the classroom is organized for common use.				
3. Materials are kept out of the way until they are distributed or used under the teacher's direction.				
4. Many different activities go on simultaneously.				
5. Children are expected to do their work without getting help from other children.				
6. Manipulative materials are supplied in great diversity and range, with little replication.				
7. The day is divided into large blocks of time within which children, with the teacher's help determine their own routine.				
8. Children work individually and in small groups at various activities.				
9. Books are supplied in diversity and profusion (including reference, children's literature).				
10. Children are not supposed to move about the room without asking permission.				
11. Desks are arranged so that every child can see the blackboard or teacher from his desk.				

12. The environment includes materials developed by the teacher.

13. Common environmental materials are provided.

14. Children may voluntarily make use of other areas of the building and school yard as part of their school time.

15. The program includes use of the neighborhood.

16. Children use "books" written by their classmates as part of their reading and reference materials.

17. Teacher prefers that children not talk when they are supposed to be working.

18. Children voluntarily group and regroup themselves.

19. The environment includes materials developed or supplied by the children.

20. Teacher plans and schedules the children's activities through the day.

21. Teacher makes sure children use materials only as instructed.

22. Teacher groups children for lessons directed at specific needs.

23. Children work directly with manipulative materials.

24. Materials are readily accessible to children.

25. Teacher promotes a purposeful atmosphere by expecting and enabling children to use time productively and to value their work and learning.

26. Teacher uses test results to group children for reading and/or math.

27. Children expect the teacher to correct all their work.

28. Teacher bases his instruction on each individual child and his interaction with materials and equipment.

29. Teacher gives children tests to find out what they know.

30. The emotional climate is warm and accepting.

31. The work children do is divided into subject matter areas.

32. The teacher's lessons and assignments are given to the class as a whole.

33. To obtain diagnostic information, the teacher closely observes the specific work or concern of a child and asks immediate, experience-based questions.

34. Teacher bases his instruction on curriculum guides or textbooks for the grade level he teaches.

35. Teacher keeps notes and writes individual histories of each child's intellectual, emotional, physical development.

36. Teacher has children for a period of just one year.

37. The class operates within clear guidelines made explicit.

38. Teacher takes care of dealing with conflicts and disruptive behavior without involving the group.

39. Children's activities, products, and ideas are reflected abundantly about the classroom.

40. The teacher is in charge.

41. Before suggesting any extension or redirection of activity, teacher gives diagnostic attention to the particular child and his particular activity.

42. The children spontaneously look at and discuss each other's work.

43. Teacher uses tests to evaluate children and rate them in comparison to their peers.

44. Teacher uses the assistance of someone in a supportive, advisory capacity.

45. Teacher tries to keep all children within his sight so that he can make sure they are doing what they are supposed to do.

46. Teacher has helpful colleagues with whom he discusses teaching.

47. Teacher keeps a collection of each child's work for use in evaluating his development.

48. Teacher views evaluation as information to guide his instruction and provisioning for the classroom.

49. Academic achievement is the teacher's top priority for the children.

50. Children are deeply involved in what they are doing.

Scoring Key for Classroom Observation Rating Scale and Teacher Questionnaire

Item	1	2	3	4	Item	1	2	3	4
1	4	3	2	1	26	4	3	2	1
2	1	2	3	4	27	4	3	2	1
3	4	3	2	1	28	1	2	3	4
4	1	2	3	4	29	4	3	2	1
5	4	3	2	1	30	1	2	3	4
6	1	2	3	4	31	4	3	2	1
7	1	2	3	4	32	4	3	2	1
8	1	2	3	4	33	1	2	3	4
9	1	2	3	4	34	4	3	2	1
10	4	3	2	1	35	1	2	3	4
11	4	3	2	1	36	1	2	3	4
12	1	2	3	4	37	1	2	3	4
13	1	2	3	4	38	4	3	2	1
14	1	2	3	4	39	1	2	3	4
15	1	2	3	4	40	1	2	3	4
16	1	2	3	4	41	1	2	3	4
17	4	3	2	1	42	1	2	3	4
18	1	2	3	4	43	4	3	2	1
19	1	2	3	4	44	1	2	3	4
20	4	3	2	1	45	4	3	2	1
21	4	3	2	1	46	1	2	3	4
22	1	2	3	4	47	1	2	3	4
23	1	2	3	4	48	1	2	3	4
24	1	2	3	4	49	4	3	2	1
25	1	2	3	4	50	1	2	3	4

APPENDIX B

INSTRUMENTS

Attitude Questionnaire

Draw a line through the number under the answer on the answer sheet that agrees best with the way you believe or feel for each question.

Example:

I prefer nine week terms to semesters.

Strongly Disagree	Disagree	Agree	Strongly Agree
1	2	3	4

Environment

1. The books and equipment needed or wanted are available in the classroom.
2. The students enjoy their classwork.
3. There is a lot of bickering among the class members.
4. The better students' questions are more sympathetically answered than those of the average students.
5. Every member of the school enjoys the same privileges.

Satisfaction

1. There are long periods during which the class does nothing.
2. Students who break the rules are penalized.
3. Most classes have rules to guide their activities.

4. I am usually happy these days.

5. I am satisfied with school the way it is.

Personal Competence

1. I have always felt pretty sure my life would work out the way I wanted it to.

2. I seem to be the kind of person that has more bad than good luck.

3. I never have any trouble making up my mind about important decisions.

4. I have always felt that I have more will power than most people have.

5. There's not much use for me to plan ahead because there's usually something that makes me change my plans.

Acceptability to Others

1. People are quite critical of me.

2. People seem to respect my opinion about things.

3. Most people seem to understand how I feel about things.

4. I feel that I'm as good as anyone else.

5. I feel there are a lot of things about me that are good.

Social Responsibility

1. It is no use worrying about unfair treatment in school affairs; I can't do anything about them anyway.

2. Every person should give some of his time for the good of his school, town, or country.

3. Letting your friends down is not so bad because you can't do good all the time for everybody.

4. It is the duty of each person to do his job the very best he can.

5. I feel very bad when I have failed to finish a job I promised I would do.

Authoritarianism

1. Obedience and respect for parents and teachers are the most important things children should learn.

2. One main trouble today is that people talk too much and work too little.

3. An insult to our honor should never go unpunished.

4. What youth needs most is strict discipline, rugged determination, and the will to work and fight for family and country.

5. There is hardly anything lower than a person who does not feel a great love, gratitude, and respect for his parents.

Value Survey

Which qualities would you like for yourself? Arrange the following in order of importance.

Capable, can do things

Cheerful, happy, joyful

Forgiving, willing to pardon others

Good looking, face and build

Helpful, willing to help others

Imaginative, has good ideas, daring, creative

Independent, does things for himself

Loving, tender, affectionate

Obedient, does as one should, or is told

Polite, courteous, well-mannered

Responsible, does as he says, reliable

Self-control, restrained, responsible for actions

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