

**ACHIEVEMENT MOTIVATION AS RELATED TO
ABILITY, CHOICE OF CLASS, AND SUCCESS
IN CLASS**

BETTY S. MURPHEY

ABSTRACT

One hundred and thirty-five high school juniors served as subjects in this research which investigated the interrelations between need for achievement, ability, choice of class, and success in class. The student's choice of English class was considered in terms of the choices predicted by Atkinson's theory of achievement motivation. Higher scores on Herman's survey "Attitudes Toward Work and School" indicate high need for achievement. Scores on this survey were correlated with IQ scores as recorded on the cumulative record and the first semester grade assigned to the student.

The results of this investigation indicate that the correlation between need for achievement and grade was significant in three English classes while the correlation between ability and grade was significant in two English classes. The deciding variable appeared to be the teacher. There was no significant correlation between ability and need for achievement in any of the classes. It was noted that even though students did not make choices as predicted by the theory of achievement motivation, their probability of success would have been greater if they had indeed made the predicted

choices. It was concluded that knowledge of a student's need for achievement plus knowledge of ability would be beneficial in helping the student to choose an English class in which success would be likely.

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An Abstract
Presented to
the Graduate Council of
Austin Peay State University

In Partial Fulfillment
of the Requirements for the Degree
Master of Arts
in Psychology

by
Betty S. Murphey
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To the Graduate Council:

I am submitting herewith a Thesis written by Betty S. Murphey entitled "Achievement Motivation as Related to Ability, Choice of Class, and Success in Class." I recommend that it be accepted in partial fulfillment of the requirements for the degree of Master of Arts, with a major in Psychology.

Garland E. Blair
Major Professor

We have read this thesis and
recommend its acceptance:

Linda Rudolph
Second Committee Member

William D. Danner
Third Committee Member

Accepted for the Council:

William H. Ellis
Dean of the Graduate School

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CHAPTER I

INTRODUCTION

It has been widely acknowledged that motivation and academic success are to some extent related. Indeed, Maehr and Sjogren (1971) state that "Educators generally agree that a major variable affecting classroom performance is motivation. However, important as motivational variables may be in understanding, predicting, and controlling classroom behavior, there is a paucity of information and theory associated with them. There are many theories of human motivation; but little attempt has been made to extend these theories in a systematic way to educational situations. Furthermore, the occasional application of psychological theory to education has not typically eventuated in a theory of academic motivation nor a unified and coherent body of information. As a result, there is very little in the way of motivation theory which is clearly of help to the classroom teacher or to education in general."

During recent years several theorists have attempted to evolve postulates and hypotheses relevant to the educational process. Atkinson's theory of achievement motivation is particularly prominent among these. It

is believed that this theory may give direction to educationally relevant research (Maehr and Sjogren, 1971). Indeed, critical problems for achievement motivation such as the influence of motive to succeed and motive to avoid failure on the probability of success is certainly an issue that could be applicable to educational problems (Schultz and Promerantz, 1974).

The emphasis placed upon motivation and its relevance to academic success has made teachers feel responsible for improving the motivational climates that underlie student morale. It has been observed that "teachers attempt to encourage children of all social classes to achieve an internal orientation toward their academic efforts with such statements as 'If you study hard enough you'll pass the test,' and 'you can be anything you want if you just keep working toward it' " (Crandall, Katkovsky and Crandall, 1965). In addition, it has been observed that very early in a child's training both parents and teachers attempt to encourage a belief in personal responsibility for intellectual-academic success (Crandall, Katkovsky and Crandall, 1965).

Motivation in the classroom is a complex problem for the teacher due to individual needs of students. For instance, Atkinson (1974, p. 406) indicates that

individuals have a variety of differences relative to their motives to achieve, to avoid failure, to avoid success, etc. He believes that a student's probability of success relative to the challenge of a particular task differs as a result of the student's perception of his probability of success, his distant future goals, and his unsatisfied craving to achieve.

There have been a great many studies in the area of achievement motivation during the past 20 years. One of the most difficult problems in this area appears to be that of measurement (Hermans, 1970). It is difficult to accurately measure the important ingredients for success that seem to be captured in the term "achievement motivation." Ingredients such as persistent striving toward a goal, willingness to work hard, identification with career goals, overcoming of obstacles --- all these are considered both by the academician and the man on the street as components of achievement motivation (Entwistle, 1972). A review of the literature concerning the general characteristics of high and low achievers have resulted in similar descriptions. "Studies have shown that high achievers have realistic aspiration levels, whereas low achievers have relatively low or high aspiration levels; or high achievers prefer

intermediate risk situations whereas low achievers prefer relatively low or high risk situations"

(Mehrabian, 1968). It has been suggested by Weiner (1972) that high motive individuals can be distinguished from low motive individuals by the observation of behavioral differences. Behavioral characteristics of high motive individuals would include initiation of achievement activities, working with greater intensity, persisting longer in the face of failure, and the choosing of more tasks of intermediate difficulty. It is interesting to note that "studies indicate that subjects high in achievement motivation persisted longer and worked with greater speed following failure than following success, while subjects low in achievement motivation persisted longer and worked with greater speed following continual success than continual failure" (Weiner, 1965).

If we are to strengthen the achievement motives in children, we must first have some understanding of its origins. As a result of studies in the last few years, it is likely that more is known about the origins of achievement motivation than of any other motive (Heckhausen, 1968, p. 129). Atkinson (1964, p. 231) states that the strength of the achievement motive

appears to be jointly determined by the personality disposition and by immediate environmental influences. Maehr and Sjogren (1971) direct attention to studies which suggest that age level has an influence on one's need for achievement. This need for achievement is reflected in a drive for competence during the earlier stages of development. Then, during middle childhood, need for achievement may be exhibited in an inclination toward socially competitive patterns. Finally, during adolescence, the experiences of both the early and the late stages intergrate into a need for achievement pattern. Heckhausen (1968, pp. 135-136) believes the early years in a child's life to be a critical period in the motive acquisition. He hypothesizes that ages 4 and 5 are critical periods with respect to the formation of the achievement motive. He believes that success or failure experiences during this age period lead into more or less stable directions of the motive development. He states the following as additional conditions which are related to the origins of the achievement motive:

- 1) early need for independence (especially in decision making);
- 2) reinforcement learning, especially by parental rewards and punishments (positive reinforcement of success tends to strengthen the motive to achieve);

3) the presence of adequate models to the transmission of behavior patterns and value attitudes by mere observation; 4) the amount of experienced incongruities that are motive-relevant in a given environment (presenting paced levels of difficulty in the home or in the school).

Schultz and Pomerantz (1974) state that "The crux of achievement motivation theory is the notion that individuals who are highly success oriented relative to their fear of failure prefer tasks of moderate probability of success, while persons with the opposite tendencies prefer either extremely easy or extremely difficult tasks." It has also been noted that persons with a high need for achievement often overestimate their probability of success since they perceive their chances of success as greater than objective difficulty level would suggest. Hermans (1970) suggest that students with a high need for achievement persist longer when their probability of success approximates .50, while students low in need for achievement persist longer when working in the extreme probabilities. "Perhaps the major prediction of the theory is that achievement-oriented subjects will be more motivated toward moderately difficult tasks than failure threatened subjects; in educational terms, achievement-oriented subjects will

be more inclined toward challenge" (Maehr and Sjogren, 1971). Therefore, according to the theory of achievement motivation as just reviewed, if students could freely choose from classes of three different levels of difficulty, they should make choices as predicted in Table 1.

TABLE 1

CLASS CHOICE AS PREDICTED BY ATKINSON'S
THEORY OF ACHIEVEMENT MOTIVATION

Ability	nAch	Difficult	Average	Easier
High	High	X		
	Low		X	X
Average	High		X	
	Low	X		X
Low	High			X
	Low	X	X	

There have been some studies which indicate that high achieving students and low achieving students are perceived differently by the teacher. The studies also indicate that the students themselves perceive the

reasons for their success or failure in different ways. Weiner (1972) stated that studies show that students perceived by the teacher as being competent were punished for failure more than those perceived as noncompetent. The greatest amount of punishment was administered to pupils perceived as high in ability and failing an easy task. Thus, teachers appear to be most critical of students who can succeed, but fail because of an absence of trying. Another study suggests that "Persons high in achievement needs perceive themselves as more able and ascribe success experiences internally to high ability and effort, but that low achievement need persons tend to deny personal responsibility for success outcomes by locating the causal source externally in good luck or easy task. For failure outcomes, high-need achievers tend to make ascriptions to lack of effort, while the low-need persons blame a lack of ability" (Ames, Ames, and Felker, 1976).

A review of the literature suggests that Atkinson's theory of achievement motivation includes some hypotheses related to a number of educational practices. It appears that Atkinson's theory is applicable to ability grouping since studies have shown that students having a high need for achievement had greater growth in scholastic

achievement as well as more interest in the subject area when placed in an ability-grouped class. Even though the evidence to this effect is not conclusive, it is sufficient to justify further study. Atkinson's theory can also be related to programmed instruction. If his theory is correct, programmed instruction would be more successful with students having a low need for achievement than with students having a high need for achievement. This would be consistent with the point that maximal motivation for achievement-oriented subjects occurs under moderate success ratios while failure-threatened subjects will be maximally motivated under either high or low success levels (Maehr and Sjogren, 1971). Thus, it appears that educational practices may be improved through the applications of achievement motivation. Perhaps, the greatest hope lies in the promise that studies will continue and the theory will continue to be improved as it has been over the past 20 years. "Corrections and minor modifications have been added and major revisions have been reported" (Revelle and Michaels, 1976).

Based upon the fundamental postulates of the theory of achievement motivation, the present research was concerned with patterns of class choice as related to

need for achievement and ability. Another major concern was to find if there were intercorrelations between need for achievement, IQ, and success in class.

CHAPTER II

METHOD

The subjects were 135 eleventh graders who had freely chosen one of the three levels of junior English at Springfield High School. Membership in this sample was contingent upon whether or not a student was present on the day the survey was administered and the availability of an IQ score from the student's cumulative record.

Subjects were given the survey "Attitudes Toward Work and School." This survey was developed by Hermans in 1970 and consists of 29 multiple choice items representing various aspects of achievement motivation. The subjects were asked to read the directions and then proceed by reading each question and carefully considering all possible answers. There was no time limit; however, all subjects finished within the 55 minute class period. The survey was administered within the individual English classes. Class size ranged from 14 to 30.

Before the survey was handed to the subjects, a code was typed on the back sheet. The code included the level of English class that had been chosen by the subject, the teacher of the particular class, the grade

assigned for the first semester of the 1977-78 school year, and the IQ as shown on the cumulative record. All IQ scores were obtained as a part of the regular school testing program during the subject's ninth grade year. At the time the code was typed on the survey, the subject's name was written on a separate sheet of paper and attached to the survey. This name was removed when the subject received the survey for completion, thus providing confidentiality.

The difficulty of the different levels of English had been previously determined by the English teachers. The most difficult level was 302 with 301 being the level of average difficulty and 300 being the level of least difficulty. The students were aware of the different levels of difficulty. It was assumed that selection of a particular class was an indication of preference.

CHAPTER III

RESULTS

The 50% of students receiving a raw score of 94 and below on the survey were considered to have a low need for achievement (nAch) while the 50% scoring 95 and above were considered to have a high nAch. Likewise, abilities of high, average, and low were determined by placing an equal number of subjects in each category. Below average ability ranged from 71 to 93, average ability ranged from 94 to 105, and above average ability ranged from 106 to 140.

The overall statistics showed a significant correlation at the .005 level between IQ and grade as well as nAch and grade. Also, the correlation of .222 between IQ and nAch was significant at the .05 level. The correlation between IQ and grade was .348 while the correlation between nAch and grade was .351. As indicated in Table 2, these variables also correlated within some of the individual classes. On the other hand, nAch and IQ did not correlate within any of the individual classes yet yielded a marginal correlation when the classes were considered as a whole.

TABLE 2
CORRELATIONS BY INDIVIDUAL LEVELS
BETWEEN nAch AND GRADE

Level of English	N	Variables	r
302Re	36	IQ---nAch	.037
		IQ---Grade	.380*
		nAch---Grade	.211
301H	14	IQ---nAch	-.281
		IQ---Grade	-.334
		nAch---Grade	.489*
300C	38	IQ---nAch	.141
		IQ---Grade	.380**
		nAch---Grade	.382**
300R	47	IQ---nAch	.037
		IQ---Grade	.138
		nAch---Grade	.342**

* $p < .05$

** $p < .01$

The probabilities given are for a one-tailed test

A Pearson Product Moment r was computed to determine if there were intercorrelations between nAch, ability, and success as determined by grade. The resulting correlations are shown in Table 2. A significant correlation was found between IQ and grades in 302Re and 300C while 301H, 300R, and 300C showed significant correlations between nAch and grades.

It was found that when subjects were able to freely choose between three different levels of difficulty, they made Atkinson's predicted choices as shown in Table 1 only 50% of the time. The study showed 63% of the above average students choosing the most difficult level. Twenty-nine percent of these were considered to have a low nAch. Likewise, it indicated that 64% of the subjects with average ability and high nAch chose the level of least difficulty. The same trend held true for the subjects with below average ability and low nAch as 100% chose the level of least difficulty.

CHAPTER IV

DISCUSSION

The data presented in this study cannot support the hypothesis that subjects with high nAch prefer risk situations where the probability of success approximates .50 while subjects with low nAch prefer risk situations with extreme probabilities (Hermans, 1970). One possible explanation for this lack of support may be found in a study of Appendix A, B, C, and D. According to the distribution of grades in relation to IQ and nAch, one might conclude that there was no level of difficulty that met the above criterion. This can be illustrated by pointing out that subjects with average ability and high nAch had an 80% probability of making an acceptable grade (grade of C or better) in the college bound class and a 56% probability of making an acceptable grade in general English. Likewise, students with high ability and low nAch had an 82% probability of an acceptable grade in 302Re while having only a 67% probability in 300 which was expected to be less difficult. Therefore, one must consider the question of whether there actually was a class which had a 50% probability of success. The subjects might have chosen according to Atkinson's theory if the classes had really existed. However, it

appears that the situation did not exist that would actually test that aspect of the theory.

Also, consideration must be given to the instructors. Particularly, note Appendix C and D which are sections of the same level of difficulty with different teachers. Careful observation reveals that even though both sections had a significant correlation between nAch and grade, 75% of subjects in 300R with both low ability and low nAch received an acceptable grade while only 18% in 300C received grades in the same range. The difference is even more striking when considering subjects with below average ability and high nAch. One hundred percent of the subjects in 300R received an acceptable grade while only 18% of the subjects in 300C received acceptable grades. The same type of pattern can be found within English 301. Even though there was only one teacher, it is worth noting that a larger percentage of students with average ability and high nAch were more successful than subjects with above average ability and either high or low nAch. Also, it appeared that any student with above average ability without consideration of his nAch had a greater probability of being successful in 302 than any of the other levels of difficulty.

Weiner (1972) pointed out that teachers administered

the greatest amount of punishment to students perceived as high in ability and failing because of an absence of trying. If one assumes that a low nAch would result in a lack of effort and that punishment was administered through low grades, results from the four classes would not support this hypothesis. Even though there was a significant correlation between nAch and grade in two of the three levels, there was no apparent tendency for subjects with high ability and low nAch to receive lower grades than other subjects. However, it must be considered that the ability of any given student and the instructor's perception of that ability may not have been congruent. Subsequently, had this study correlated the subject's ability as perceived by the instructor with the final grade received, there may have been a more definite relationship.

The results of this study indicate that although students did not choose classes as predicted by Atkinson's theory, their probability of success would generally have been greater if they had indeed made the predicted choices. Any student with above average ability would have had a greater probability of success in the college bound class; students with average ability and high nAch would have likely been more successful in the middle

level class; students with average ability and low nAch would have had a greater probability of success in 300C; and any student with below average ability would have generally received higher grades in 300R.

This study was conducted on a sample of eleventh grade students enrolled in junior English classes at Springfield High School and therefore the results can only be generalized to this group of students. The survey scores measured only the present level of nAch for these high school students. The relationship between the variables, ability, nAch, choice of class, and success in class, could have been more appropriately assessed if the level of difficulty in the classes had actually presented a .50 probability of success. Also, it would have been beneficial to have first surveyed the student's ability as perceived by the instructor.

In conclusion, this study has attempted to determine certain patterns of class choice as predicted by Atkinson's theory of achievement motivation and whether there were intercorrelations between nAch, ability, and success in class. The evidence allows no certain conclusions concerning Atkinson's theory of class choice since there were apparently no classes which provided a 50% probability of success. It was concluded that achievement

in class depended to some degree upon the instructors as one level showed a significant correlation between IQ and grade and others showed the significant correlation to be between nAch and grade. However, an analysis of variance showed a significant difference at the .01 level between the three levels of English. This difference was significant in relation to IQ and to nAch. Appendix E illustrates the mean of IQ and nAch in the individual classes. The Neuman-Keuls studentized range test showed no significant difference either in IQ or nAch between the two sections of the lower level English. There was no significant difference between the middle level and the college bound or 300C in nAch. However, there were significant differences between the college bound level and the 300 classes when considering both IQ and nAch. There was also a significant difference in IQ between the students taking 301 and those taking the college bound English.

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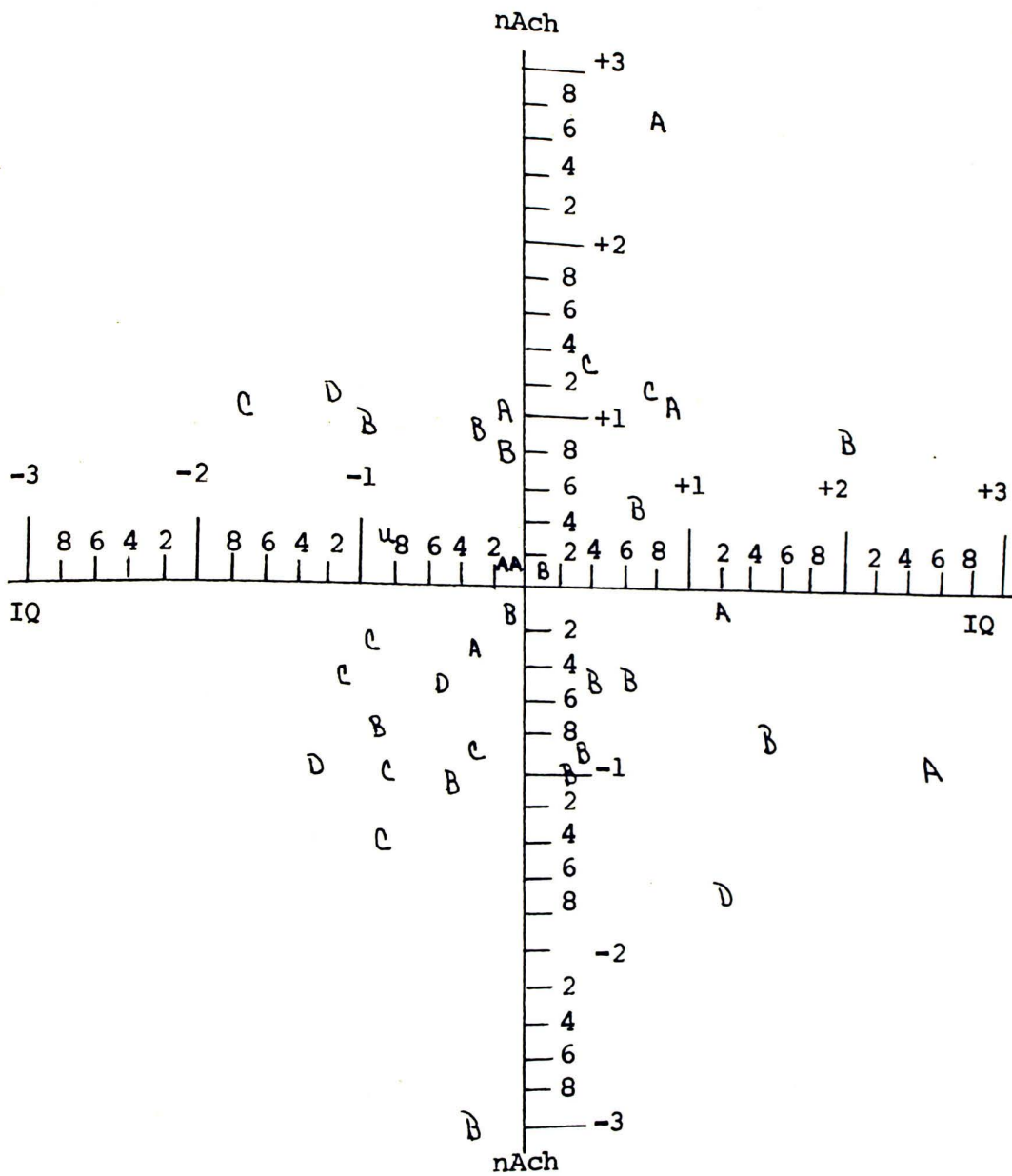
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APPENDIX A

Distribution of Grades in Relation to IQ and nAch

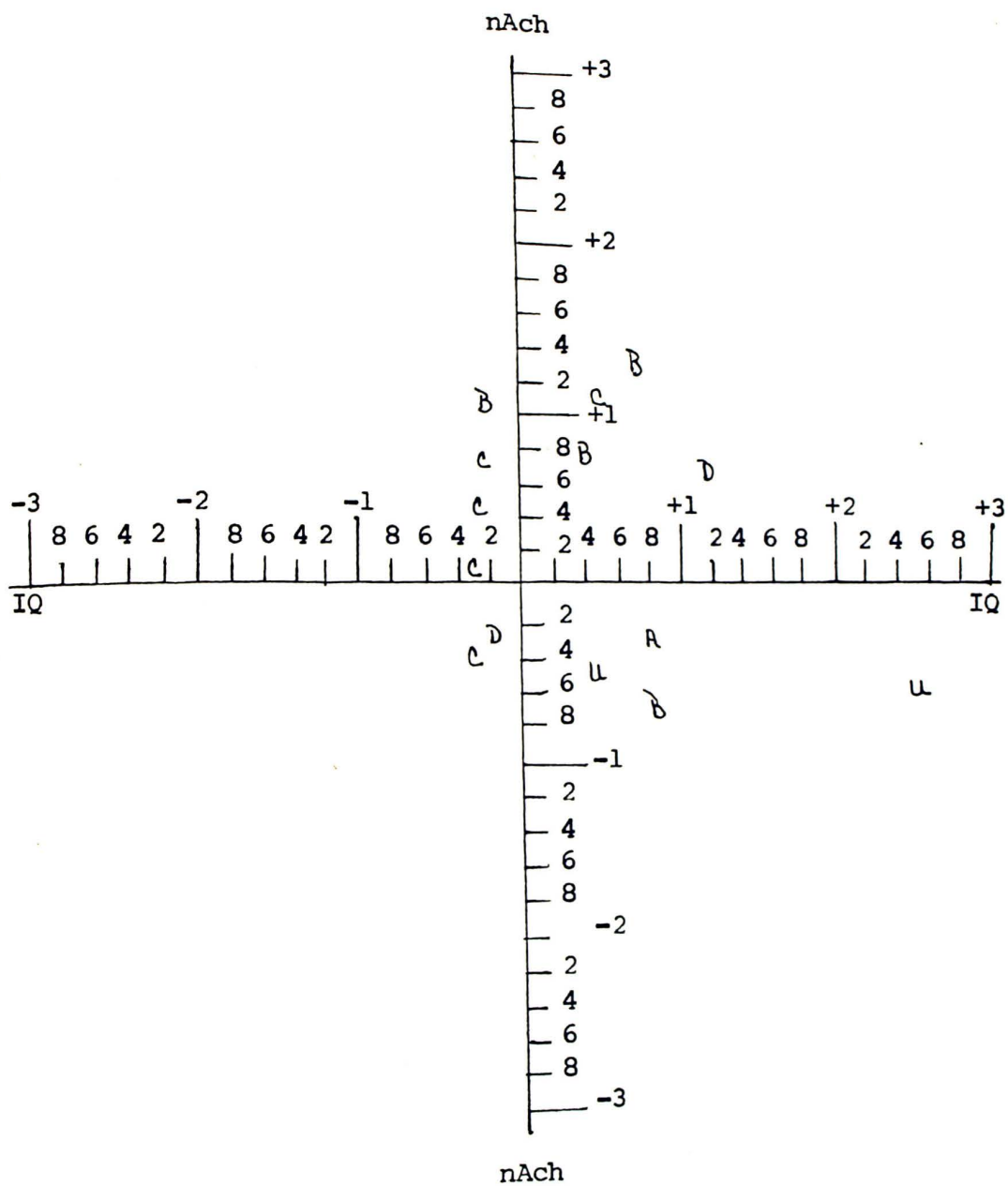
English 302Re



APPENDIX B

Distribution of Grades in Relation to IQ and nAch

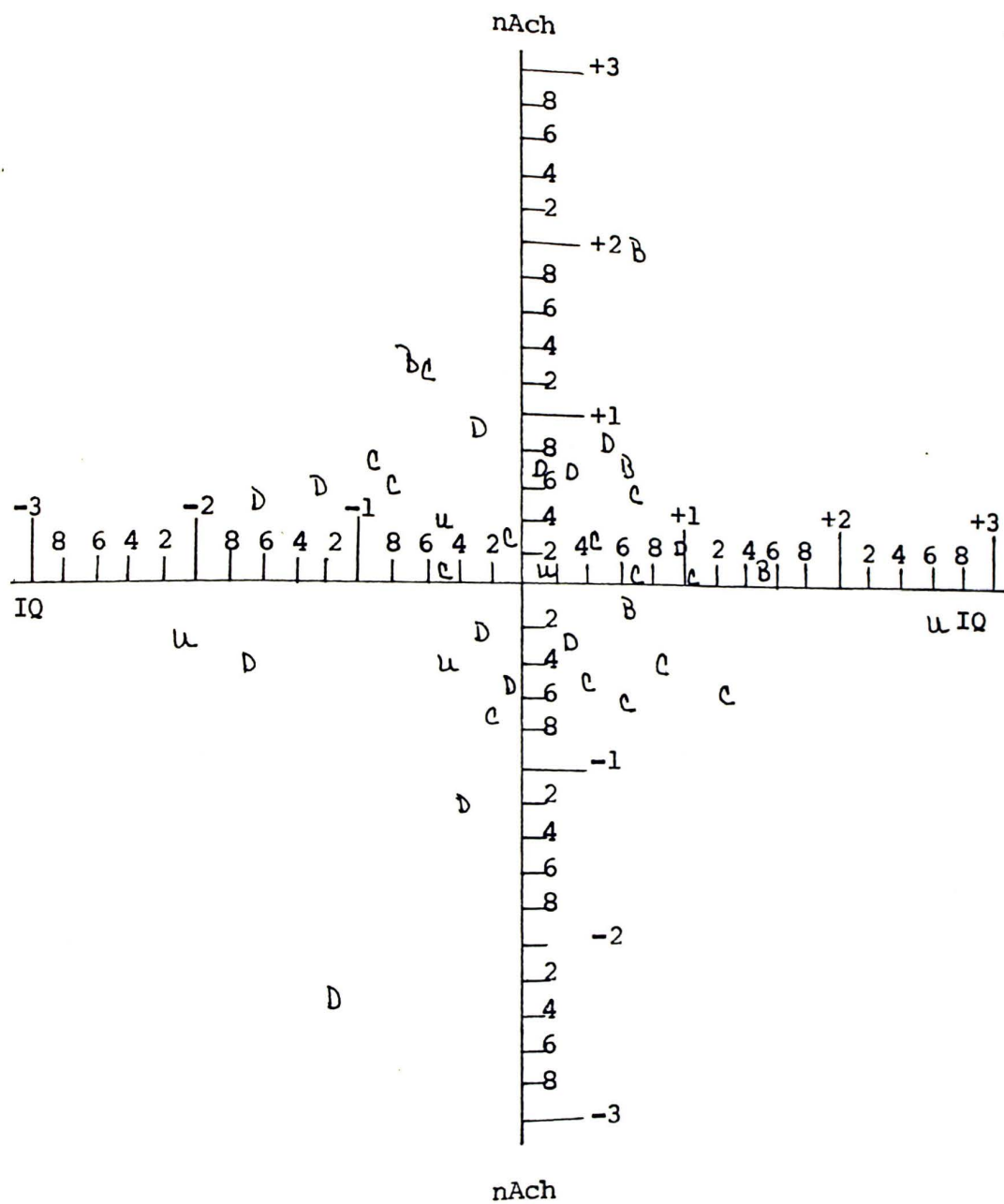
English 301H



APPENDIX C

Distribution of Grades in Relation to IQ and nAch

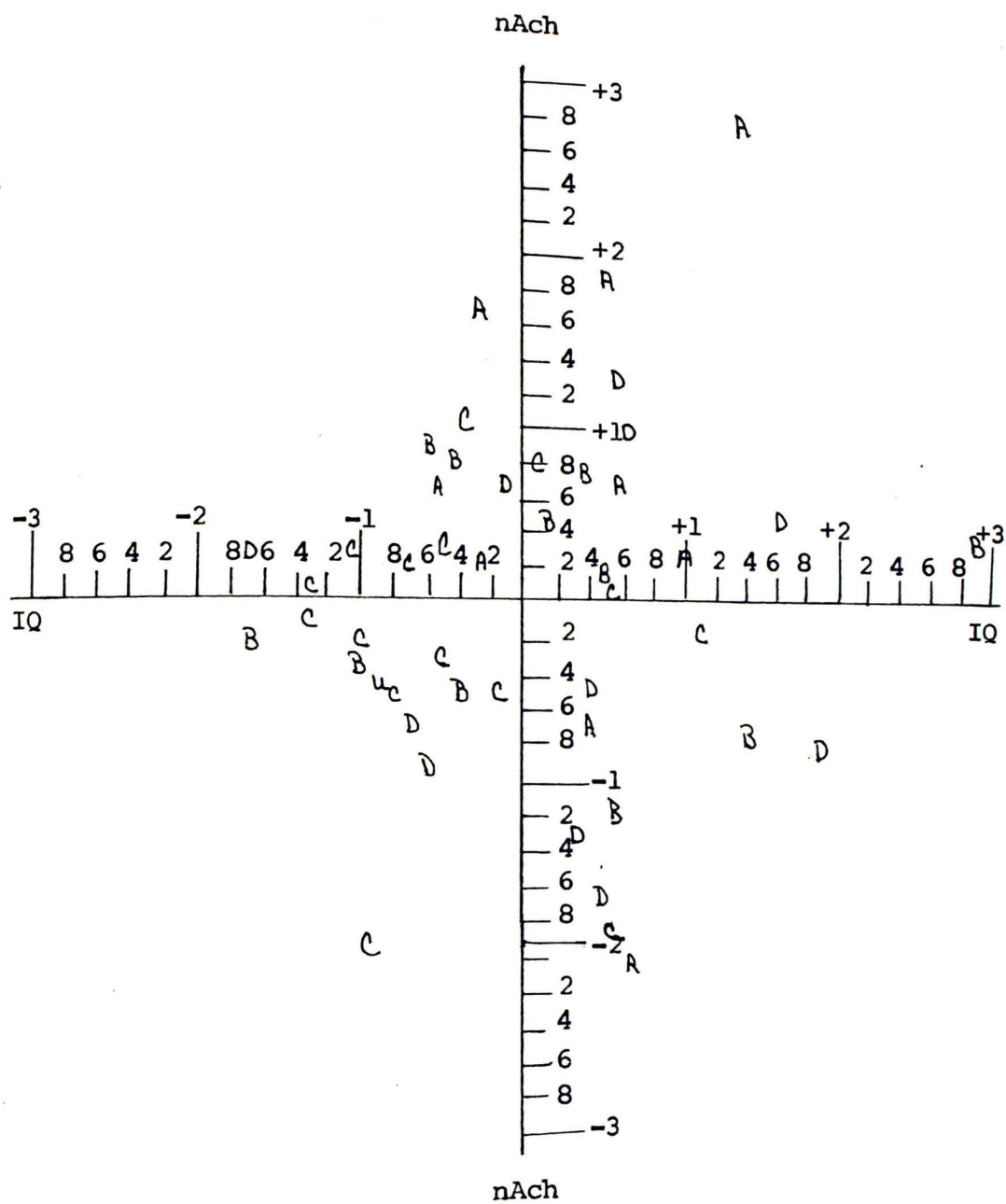
English 300C



APPENDIX D

Distribution of Grades in Relation to IQ and nAch

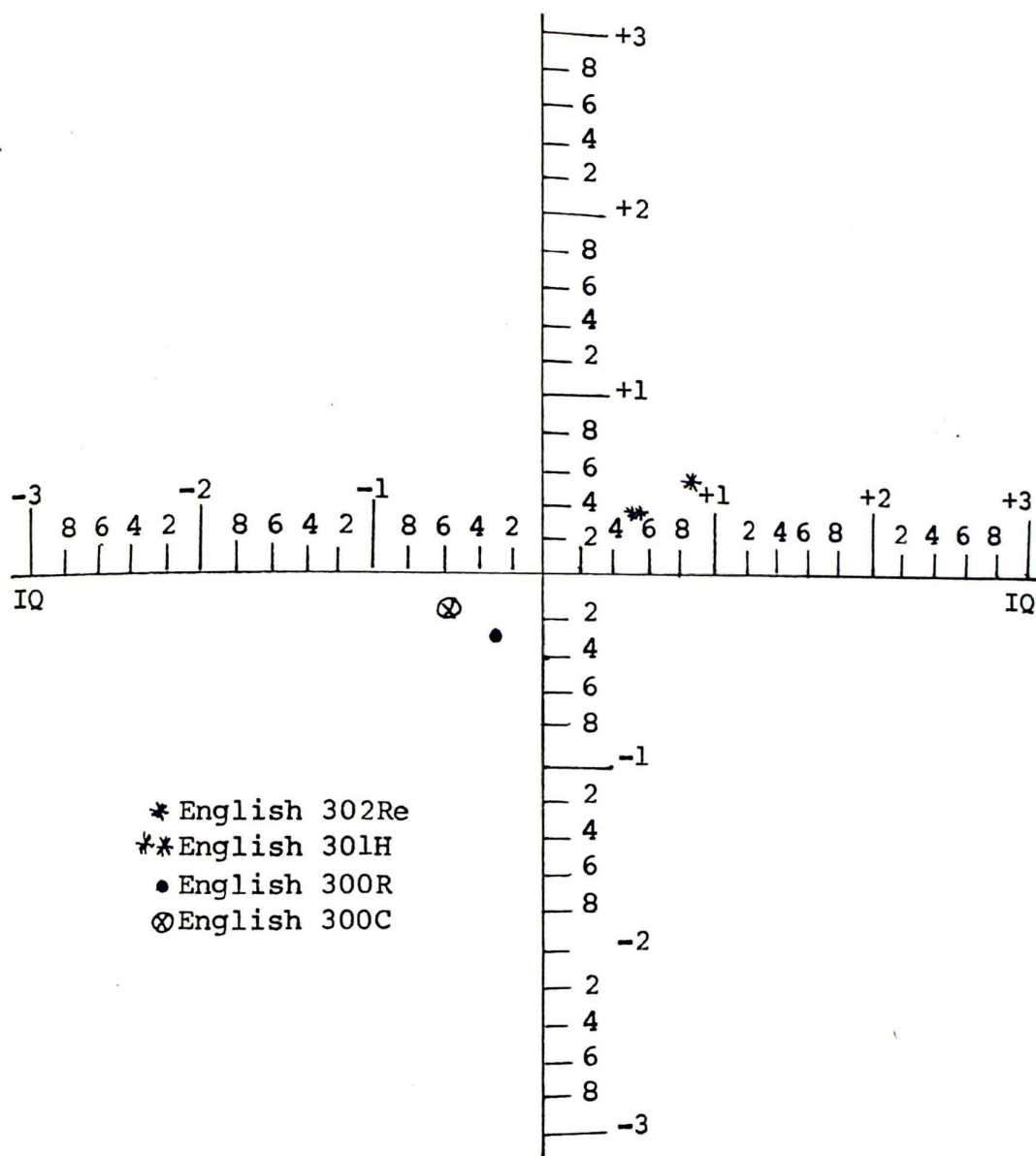
English 300R



APPENDIX E

Mean of IQ and nAch in Individual Classes

nAch



* English 302Re
 ** English 301H
 • English 300R
 ⊗ English 300C

nAch