

PHI BETA KAPPA STUDENTS AT NORTH-
WESTERN UNIVERSITY

WHAT THEY BRING AND WHAT THEY TAKE

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A detailed study of:

I. The units offered for admission to the College of Liberal Arts, during the decade 1909-1919, by candidates who were subsequently elected to the Phi Beta Kappa Society.

II. The quality of the high school work that had been accomplished by these candidates.

III. The courses they pursued in college to earn their bachelor degrees as members of the classes of 1913-1922.

Colleges and universities will presently have to justify their appeals for support, both financial and personal, by showing unmistakable evidence of the effective work they are accomplishing. Not much has yet been done in this direction by college administrators. One, recognized as a leader in college circles, said in his recent inaugural address:

"The dividends of the university, though enormously valuable, are indefinite, intangible, indirect and often deferred, and a man accustomed to commercial comparisons becomes confused, hesitant or even frankly doubtful."¹

The longer college and university administrators continue to emphasize the indefinite results of the education which they are administering, the wider will become the breach between secondary schools and higher institutions. College men must reach better agreement as to their objectives and then set such requirements for admission and arrange such work in the college course as will secure men and women for the college best fitted to profit by its curriculum and, through it, to achieve finally the objectives of the college.

Cubberley² wrote a decade ago: "Our school authorities are not likely to know too much about what they are doing, or what the work attempted is costing. Such information should be tabulated and charted and made as useful and intelligible as possible. Much of the material

¹Brooks, Stratton D., *School and Society*, Vol. XVIII, No. 464.

²Cubberley, Ellwood P., *Public School Administration*, p. 425-6.

collected will be capable of graphic representation, and the presentation of facts in graphic form will always prove helpful and stimulating."

In his text on "Measurement in Higher Education", Ben D. Wood, Assistant Professor of Collegiate Educational Research in Columbia College, devotes a chapter to discussion of the question: "What is College Success?" He recognizes college life as "a very complex and variable phenomenon" but insists that "whatever exists at all exists in some quantity or amount. The effort to measure the quantity of a phenomenon is but an extension of the effort to learn what it is. * * * The college * * * has certain special characteristic functions which distinguish it from other institutions the performance of which may be said to measure its success as a distinctive institution."

The author then enumerates and justifies four major activities of college life, viz.: (1) Participation in physical competitions whether in grandstand or in the game is one of the finest elements of collegiate experience. (2) The development and encouragement of conduct, habits and attitudes that are socially desirable * * * is a prominent function of a college. (3) Professional preparation for leadership in the work of the world is an end which our liberal colleges of today are unashamed to serve. (4) What might be regarded the most important characteristic function of the college is the introducing of students into what President Butler has happily called "The Great Tradition". * * * This is the *raison d'être par excellence* of the college, and the main line of attack is the academic one. Since this is so, we may lay down the general principle that the most important measure of college work is its academic product. In turn, this product is dependent in large part upon the preparation prior to entrance.

I.

If the *sine qua non* of the college is its academic work, as Professor Wood insisted above, those who have accomplished this academic work in such a manner as to win the highest approval of the faculty may be assumed to

have achieved the largest college success. Election to the Phi Beta Kappa Society is commonly regarded as the highest scholastic honor because it is based primarily upon the scholarship record made by students in college.

The first part of this report, therefore, surveys the preparatory work of all those students who through the ten-year period were awarded this distinction. The number so honored was 269. Each college class, from 1913 to 1922 inclusive, was studied separately.

A summary of the decade leads to the following conclusions:

1. Of those elected to Phi Beta Kappa at Northwestern University during that decade, 70% entered college with more than the minimum requirement.
2. Ditto, 24% entered with at least two extra units of preparatory work.
3. The average amount offered was 16.12 units.
4. The content of this average offering was:

TABLE I.

Distribution of Units offered for entrance by candidates subsequently elected to Phi Beta Kappa.

Field of Study	Number of Units	Proportion of Total Offered
English (3)	3.28	20.37%
Algebra (4)	1.45	9.00
Plane Geometry (5)	1.00	6.21
Foreign Language (6)	5.49	34.09
Science (7)	2.22	13.78
History (7)	1.80	11.18
Other Academic63	3.91
Manual and Commercial23	1.42
	16.10	99.96

5. Only 2 students, of the 269 who made Phi Beta Kappa that decade, entered "on condition". (Each was conditioned in one unit only.)

From the standpoint of quantity the study shows that the future Phi Beta Kappas offered (1) considerably

³Entrance requirement in English 3 units, throughout the decade.

⁴Algebra requirement reduced in 1911 from $1\frac{1}{2}$ to "1 or $1\frac{1}{2}$," and in 1914 to 1 unit.

⁵Plane geometry—one unit.

⁶The foreign language requirement stood at 4 units during the first half of the decade; was reduced in 1914 to 3 or 4 units," and in 1918 to 2 units. (In 1919 it was changed to 3 units of one language or 2 units of each of two—the present requirement.)

⁷The requirement of one unit each of science and history was discontinued in 1910.

more than the minimum total requirement for entrance and (2) considerably more than the minimum requirement in the various prescribed subjects.

II.

From the standpoint of quality the preparatory records available at the University were practically worthless. Everyone knows the wide variations in teachers' markings. An 85 on one entrance record may represent more and better work than a 95 on another. Individual marks mean little, but numerous studies⁸ have shown that the standing in the high school graduating class is of value in predicting the probable success in college of a prospective candidate. The writer, therefore, addressed all the schools which had prepared for college the 269 students concerned. From 21 different states and from Ontario, 132 different schools were sending of their best scholars to Northwestern to become Northwestern's Phi Beta Kappas.

TABLE II.

Location and number of different schools in which preparation for College was completed by students elected to Phi Beta Kappa at Northwestern University from the Classes of 1913-1922 inclusive.

California	1	Missouri	7
Colorado	2	Nebraska	1
Illinois	65	New York	1
Indiana	7	North Dakota	1
Iowa	10	Ohio	3
Kansas	2	Ontario	1
Kentucky	1	Oregon	1
Massachusetts	1	South Dakota	1
Michigan	13	Tennessee	3
Minnesota	1	Washington	3
Mississippi	1	Wisconsin	6
Total different schools.....		132	
Schools—U. S.....	131	Public schools.....	118
Schools—Foreign	1	Private schools.....	14

A simple request was made of the schools, viz. "Indicate in which quarter of his (or her) high school class

⁸Brooks, Wendell S. "Our Freshmen" *Carleton College News Bulletin*, March, 1922.—Clark, Edward L. An unpublished study shows that "of 72 fourth-quarter high school students who entered Northwestern in 1919, only 5 have graduated."—Dearborn, W. F., "The Relative Standing of Pupils in the High School and the University," *Bulletin of the University of Wisconsin*, No. 312.—Palmer, Paul L. "Some Experiments with Mental Alertness Tests at Northwestern University" *School and Society* Vol. XVIII, No. 462.

each of your former students named hereon stood at graduation."

In view of the many years that have passed since members of the college class of 1913 began high school, the frequent changes in high school principalships, the inadequate records in many schools and the loss of records in a few, it is felt that to have received a definite answer regarding 161 students (though barely 60% of the total 269) is rather gratifying.

Of the 161 reported, 144 (89%) had stood in the top quarter of their high school graduating class and the remaining 18 were members of the second quarter. Not a single man or woman, who made Phi Beta Kappa at Northwestern through the entire ten years surveyed, was reported as having stood in the lower half of his or her high school class!

Although only the one question had been asked them, several school authorities volunteered additional information from which I gather numerous "valedictorians," "salutatorians," and "cum laude's;" some expressions of appreciation as "best student ever in * * * high school," "and high in first quarter," "top 5%," "among highest seventh," etc. A feeling of civic and professional pride may have prompted this remark: "one of the best graduates the school ever turned out."

Clearly, that part of the high school product of which Phi Beta Kappa men and women are made in college is of fine character.

We see then that from the point of view of quantity they did more in high school than was required of them, and, as to quality, they did far better than required.

III.

In the preface to his volume on *Administration of the College Curriculum*, William Trufant Foster wrote: "In the archives of Harvard College alone are the records of nearly half a century of elective studies. Here is a well-equipped laboratory awaiting students of higher education. Interpreted by proper statistical methods, these records can give guidance in the administration of the college curriculum beside which the opinion of any man,

or any body of men, is insignificant. Yet such records have not been asked to tell a tenth of what they know. The criticism of the American college, which has been so abundant of late, has yielded a hundred opinions to one fact."

Following President Foster's recommendation in an effort to get at the fact, the writer examined the college scholarship record of each of the 269 students. The total number of hours credit earned toward graduation in each department of study by each of the 269 students was found. Addition showed the hours credit in each department earned by all the Phi Beta Kappa students of a given college class. A four-year period is rather brief to give a really representative view of the status of departments in a long established college, so the records of the ten classes were summed up with the following results.

TABLE III.

College courses taken by those elected to Phi Beta Kappa in Northwestern University Classes of 1913-1922, inclusive.

Subject of Study	No. of Semester Hours Credit	Percentage of Total Earned for Graduation
Academic		
Art	177	.511
Astronomy	139	.402
Biblical Literature	362	1.047
Botany	1073	3.103
Chemistry	1283	3.710
Economics	1557	4.503
Education	1372	3.968
English	5292	15.306
French	3663	10.594
Geology	754	2.180
German	3343	9.669
Greek	926	2.678
History	2631	7.609
Latin	2857	8.266
Mathematics	2497	7.222
Philosophy	607	1.755
Physics	715	2.068
Political Science	177	.511
Psychology	1729	5.001
Spanish	360	1.041
Zoology	1089	3.149
Total	32603	94.293
Other Academic (9).....	179	.517
Total Academic	32782	94.810

^aHistory of Religion, Italian, Religious Education and Scandinavian.

Subject of Study	No. of Semester Hours Credit	Percentage of Total Earned for Graduation	
Professional			
Commerce	48		
Dentistry	30		
Engineering	292		
Journalism	3		
Law	241		
Library	30		
Medicine	131		
Music	128		
Speech	714		
Theology	59		
Total Professional	1676	4.805	4.805
Military Training (10)	115	.332	.332
	34573		99.947

A summary of the semester hours' credit earned by this group shows:

Academic	32782
Professional	1676
Military Training	115
Total hours earned.....	34573
No. of Phi Beta Kappa Students.....	269
Average number of hours earned.....	128.52
Graduation requirement	120
Excess earned per student.....	8.52

Grouping certain subjects for the attention of those particularly interested in a given field of study, we have:

Subject	Percent of Total Credit	Subject	Percent of Total Credit
Sciences and Mathematics		Foreign Languages	
Astronomy402	French	10.594
Botany	3.103	German	9.669
Chemistry	3.710	Greek	2.678
Geology	2.180	Italian260
Physics	2.068	Latin	8.266
Zoology	3.149	Spanish	1.041
	14.612		32.508
Mathematics	7.222		
	7.222		
	21.834		
English	15.306	Education	3.968
		Philosophy	1.755
		Psychology	5.001
			10.724
Social Science			
Economics	4.503		
History	7.609		
Political Science511		
	12.623		

¹⁰Credit awarded 9 men in classes of '18, '19, and '20.

A representative Phi Beta Kappa student at Northwestern the last ten years is thus seen to have earned nearly 22 percent of his credits in the field of science and mathematics, 15 percent in the English language and literature, 32 percent in various foreign languages, 12.6 percent in the social sciences, 10.7 percent in education, philosophy and psychology, and 4.8 percent in various professional subjects.

TABLE IV.

Distribution of Studies pursued by members of Phi Beta Kappa

Field of Study	For Entrance	For Graduation
English	20.37%	15.31%
Science and Mathematics.....	28.99	21.83
Foreign Languages	34.09	32.51
History and Social Science.....	11.18	12.62
Other Academic	3.91	12.54
Manual, Commercial, Professional.....	1.42	4.81
	99.96	99.62 ¹¹

With all due respect to those who would continue helping the under dog, it is the belief of the writer that if our colleges and universities are to justify themselves they must secure for higher study a larger proportion of the best students in secondary schools. They must then provide for these superior minds standards of scholarship in college which will exercise them to the full. If a chairman or any professor finds that his department has not had its share of those students to whom the faculty has awarded highest scholastic honors, he may well inquire as to the inspiration of his teaching or the standards of his department.

Starch reported a study of elementary pupils which indicated that one pupil in a hundred could complete the work of the eight grades in four years and twenty-one in a hundred could do the eight years' work in seven.¹² Our colleges receive not average young people but a select group, of whom this study evidences that the best do more and better work than is expected of them. If, therefore, a college department has in it many of these best qualified students, inquiry should be directed to the

¹¹Add .33 allowed for military training to make total 99.95 for column.

¹²Starch, Daniel. *Educational Psychology*, p. 39.

methods of teaching, the initiative expected of these students, the assignment load. For such students are capable of much self-direction¹³ and lose interest if the load be not commensurate with their strength.

¹³By vote of the faculty of Williams College on February 9, Phi Beta Kappa seniors are not limited in the number of absences allowed in their regular college subjects so long as their work is satisfactory." *School and Society*, February 21, 1925.