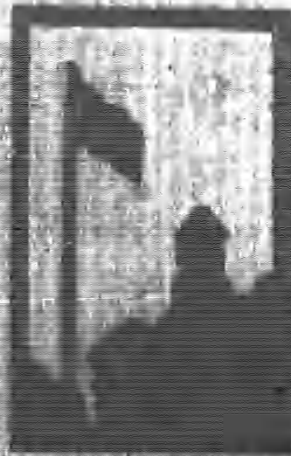


ARTICULATION OF HIGH SCHOOL AND COLLEGE



BULLETIN, 1933, No. 17

MONOGRAPH No. 14

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COMMISSIONER

ARTICULATION OF HIGH SCHOOL AND COLLEGE

BY
P. ROY BRAMMELL

BULLETIN 1932, NO. 17
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NOTE

P. Roy Brammell, the author of this monograph, is specialist in school administration of the NATIONAL SURVEY OF SECONDARY EDUCATION. William John Cooper, United States Commissioner of Education, is director of the Survey; Leonard V. Koos, professor of secondary education at the University of Chicago, is associate director; and Carl A. Jessen, specialist in secondary education of the Office of Education, is coordinator.

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LETTER OF TRANSMITTAL

DEPARTMENT OF THE INTERIOR,
OFFICE OF EDUCATION,
Washington, D. C., February, 1933.

SIR: Within a period of 30 years the high-school enrollment has increased from a little over 10 per cent of the population of high-school age to more than 50 per cent of that population. This enrollment is so unusual for a secondary school that it has attracted the attention of Europe, where only 8 to 10 per cent attend secondary schools. Many European educators have said that we are educating too many people. I believe, however, that the people of the United States are now getting a new conception of education. They are coming to look upon education as a preparation for citizenship and for daily life rather than for the money return which comes from it. They are looking upon the high school as a place for their boys and girls to profit at a period when they are not yet acceptable to industry.

In order that we may know where we stand in secondary education, the membership of the North Central Association of Colleges and Secondary Schools four years ago took the lead in urging a study. It seemed to them that it was wise for such a study to be made by the Government of the United States rather than by a private foundation; for if such an agency studied secondary education, it might be accused either rightly or wrongly of a bias toward a special interest. When the members of a committee of this association appeared before the Bureau of the Budget in 1928, they received a very courteous hearing. It was impossible, so the Chief of the Budget Bureau thought, to obtain all the money which the commission felt desirable; with the money which was obtained, \$225,000, to be expended over a 3-year period, it was found impossible to do all the things that the committee had in mind. It was possible, however, to study those things which pertained strictly to secondary education, that is, its organization; its curriculum, including some of the more fundamental subjects, and particularly those subjects on which a comparison could be made between

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the present and earlier periods; its extracurriculum, which is almost entirely new in the past 30 years; the pupil population; and administrative and supervisory problems, personnel, and activities.

The handling of this survey was intrusted to Dr. Leonard V. Koos, of the University of Chicago. With great skill he has, working on a full-time basis during his free quarters from the University of Chicago and part time during other quarters, brought it to a conclusion.

This manuscript reports a rather comprehensive study in the relations between high schools and colleges. The investigation was made by P. Roy Brammell of the regular staff of the Survey. From responses to an inquiry form which went to more than 2,000 high schools, he found that only 26 per cent or 561 schools had any records of the success of their students after entering college. Obviously, many of these are copies of the college reports. High schools were asked to comment also on noteworthy practices. Only 33 schools made any response to this question and only 6 of these were considered significant practices in articulation. Anyone interested in these will find them on page 8 of this bulletin. Inquiries were made also as to guidance, a very important question in this day when people who graduate from school find nothing whatever to do. The report is rather startling in revealing that 60 per cent of those that leave the campuses of private secondary schools have received no advice whatever about their future education.

There results from this study an impression that the plans for articulating high schools with colleges are very confusing. Probably this is due to the effect of adding new standards to the old and continuing several methods for admission in effect rather than abolishing the old ones when new ones are added.

A hopeful feature is the conclusion that the most promising field for articulation between high schools and colleges lies in considering the progressive development of the pupil, not of considering merely conditions in a pupil's record at the time he passes from one institution to the other. Much attention is now being given in attempting to make the student a part of the college. Such events as "Freshman Week" are very

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common. Frequently, however, after a week of concentration on the problem it is dropped. There need be more continuous attention to a student from the time he enters the high school until the time he leaves the university. This will be perhaps the leading lesson taught by this study. I believe the bulletin is significant, and coming as it does in this transition period it will be very useful to colleges which are working on their problems of admission and articulation. I recommend that it be printed as one of the monographs in the Survey of Secondary Education.

Respectfully submitted.

WM. JOHN COOPER,
Commissioner.

The SECRETARY OF THE INTERIOR.

ARTICULATION OF HIGH SCHOOL AND COLLEGE

CHAPTER I : PURPOSE AND SCOPE OF THE STUDY

1. GENERAL PURPOSE OF THE STUDY

At a time when a large portion of the pupils who have completed the work of the secondary school continues into higher institutions of learning, neither the group of secondary schools nor the aggregation of colleges has a right to consider its problems out of relation to the level of education above or below it. During the past few years a definite effort has been made in the United States to eliminate the gaps between the units of education. Educational training is being made naturally continuous for pupils. This natural continuity is made possible as the units of education become more and more effectively articulated.

It is the purpose of this investigation to discover the steps which are being taken by the colleges in improving their articulation with secondary schools. Articulation in this study does not refer merely to the methods employed by higher institutions in selecting students for admission, but refers equally as much to the means of adaptation subsequent to admission and to the actual plans in operation by which colleges and secondary schools constituent to them are brought into closer relationship. It has been found necessary to report a certain amount of status in order that trends and innovations may become discernible.

This study is the only project of the National Survey of Secondary Education which deals specifically with the problem of the articulation of secondary schools and higher institutions. An investigation supplementary to this study has been made, dealing with the types of innovations in colleges and universities affecting the liberal arts education for students during their first two years of college attendance. Part of the background materials for the supplementary

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study were secured through the courtesy of Kathryn McHale, director of the American Association of University Women, who directed a study of the changes and experiments in liberal arts education for the National Society for the Study of Education. The findings of the corollary study will bear special relationship to that portion of this report (Chapter III) which deals with the means used by higher institutions in adapting newly admitted students to the college situation. Another study of the survey, made by Francis T. Spaulding and O. I. Frederick, is concerned with the problem of the articulation *within* schools and school systems of the provisions for secondary education.

1. THE INQUIRY FORM SENT TO HIGHER INSTITUTIONS

Description.—The inquiry form devised for this study was addressed to higher institutions only. No special investigation was made to discover what steps are being taken among the secondary schools to improve their articulation with colleges. However, one of the three general inquiry forms sent out by the survey staff to a large number of secondary schools contains a request for a report of noteworthy practices developed for articulation with higher institutions. A total of 2,196 replies to the aforementioned form were received from public secondary schools. The reports by these schools concerning the plans they have developed for articulation with colleges will therefore give some indication of what the secondary schools are doing in this regard. These plans will be referred to later in this chapter.

Special opportunity was given in the inquiry form devised for this study for the higher institutions to report unusually successful or promising practices which they had made use of in the general field of articulation. Also, along with requests for information regarding status in this field, effort was made to determine what the practice prior to present practice had been and when the change to the present standards had been made. In this way trends in certain fields could be brought to light. The 12 pages of the form were arranged so that information could be easily supplied. In most cases a simple check mark in the appropriate place

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was all the writing required. Space was provided throughout the form in which respondents could add items not listed. In general, the replies indicate that the form was understandable and not burdensome, and the extent to which respondents added special items and comments is gratifying.

Classification of institutions.—Three major classifications have been followed in grouping the institutions included in this study. These are: (1) Size of enrollment, (2) region, and (3) type of institution.

Size of enrollment.—In this classification the institutions are grouped as follows: 300 and fewer; 301 to 500; 501 to 1,000; 1,001 to 2,000; 2,001 to 3,500; 3,501 and more.

Region.—Five regional groupings are included, as follows: (1) New England, (2) Middle Atlantic, (3) South, (4) Middle West, and (5) West. When data for these regions appear in tables the following abbreviations are frequently used: N. E. for New England; M. A. for Middle Atlantic; S. for South; M. W. for Middle West; W. for West. The States included in these regions are as follows: New England—Maine, Vermont, New Hampshire, Massachusetts, Rhode Island, and Connecticut; Middle Atlantic—New York, New Jersey, Delaware, Pennsylvania, Maryland, and District of Columbia; South—Virginia, West Virginia, North Carolina, South Carolina, Georgia, Florida, Alabama, Kentucky, Tennessee, Arkansas, Oklahoma, Mississippi, Louisiana, and Texas; Middle West—Michigan, Ohio, Indiana, Missouri, Illinois, Wisconsin, Minnesota, North Dakota, South Dakota, Nebraska, Iowa, and Kansas; West—Arizona, New Mexico, California, Colorado, Utah, Wyoming, Nevada, Montana, Idaho, Oregon, and Washington.

Type of institution.—Under this classification, division is made into groups of public and private institutions. Under public institutions are included two subsidiary groups, namely: (1) Colleges and universities and (2) teachers colleges and normal schools. Under private institutions are included three groups, namely: (1) Colleges and universities, (2) teachers colleges and normal schools, and (3) others. The third group under private institutions is made up of a small number of private training schools (e. g., physical education,

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kindergarten training, etc.) not included in the other groupings. Although the teachers colleges and normal schools comprise a single group in this study, the teachers colleges are recognized as degree-granting institutions and the normal schools, in the main, as 2-year, diploma-granting institutions. Negro institutions, because of the additional complication which their inclusion would entail, are purposely omitted.

Circulation and return of forms.—The institutions listed in the Educational Directory, 1930,¹ comprised the mailing list for this investigation. The colleges and universities listed on pages 58–65 of that bulletin, the teachers colleges listed on pages 89–91, the normal schools listed on pages 91–92, and the training schools listed on pages 92–93 were included. Junior colleges were omitted. Some of the institutions requested additional forms, so that replies could be made for separate colleges or divisions within the institution. Nine hundred and sixty-two forms, therefore, were mailed to 918 institutions. Of this number mailed out, 535 were returned by 529 institutions. Of the total returns, 517 forms from 511 institutions were received in time for and were found to be usable in the final tabulation of data. The six extra forms were returned by two institutions, one returning five extras and the other one. Throughout this report the 517 returns will be referred to as 517 institutions.

A classified summary of the 511 institutions included in this study is given in Table 1. The percentage of the institutions in each group which returned the forms is also indicated.

It is clear from the data in Table 1 that among the public institutions the colleges and universities and the institutions having larger enrollments tended to respond in greater proportion than the institutions included in the other groups. The same may be said of the private institutions. When the entire group of public is compared to the entire group of private institutions, no appreciable difference is found in the percentages of returns.

¹ Educational Directory: 1930. U. S. Department of the Interior, Office of Education Bulletin, 1930, No. 1.

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TABLE 1.—Classification of returns from 511 higher institutions of special inquiry form dealing with the articulation of high school and college

Group	Public						Private						Total re-mailed	Total re-turned	Per-cent-ages re-turned				
	N. E.	M. A.	S.	M. W.	W.	Total re-mailed	Per-cent-ages re-turned	N. E.	M. A.	S.	M. W.	W.				Total re-mailed	Per-cent-ages re-turned		
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Type:																			
Colleges and uni-versities	6	7	24	18	15	109	70	64	25	71	66	119	26	531	307	58	640	377	59
Teachers colleges	7	10	21	29	7	139	74	57			1	2		6	3	50	138	77	57
Normal schools	8	12	7	4	9	92	40	43									92	40	43
Other training schools									4	4		7	2	51	17	33	51	17	33
Enrollment:																			
300 and lower	10	4	5	3	2	73	24	33	3	21	18	52	10	197	104	53	270	128	47
301 to 500	3	7	4	8	9	50	31	62	5	20	32	45	5	169	107	63	219	138	63
501 to 1,000	5	10	14	13	4	70	46	55	9	16	10	19	9	129	63	49	208	109	52
1,001 to 2,000	3	4	18	12	10	74	47	63	6	10	6	7	2	47	31	66	121	78	64
2,001 to 3,500		1	8	6	4	29	19	66	3	1	1	1		22	6	27	51	28	46
3,501 and more		3	3	9	2	25	17	68	3	7		4	2	24	16	66	49	33	57
Total	21	29	52	51	31	330	184	56	29	75	67	126	28	598	327	56	918	511	56

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When the total columns for the entire table are examined, the numbers included in the six enrollment groups seem to justify the enrollment intervals which have been selected. Enough institutions are included in each group to make each group representative. Although fewer institutions are included in the two larger enrollment groups, it will be seen at a glance that these fewer schools form a greater percentage of the totals for these groups than is true of the total returns for some of the other groups. The total number of institutions from each geographical region is also representative. When the returns from public and private institutions are combined for each region, these totals become: New England, 51; Middle Atlantic, 104; South, 118; Middle West, 179; and West, 59. The fact that 56 per cent of the institutions approached filled in and returned the forms is not only gratifying but leads to the general conclusion that the higher institutions as a whole are concerned about the problem of articulation with the secondary schools.

Respondents.—The inquiry form of the present study was addressed to the registrar in each institution. It was felt that in schools having this officer he would be the person best informed and best fitted to supply the data requested. In 321 cases, or 62 per cent of the 517 forms returned, the registrar himself supplied the information. In 414 cases, or 80 per cent of the 517 forms, either the registrar or another officer similar to him (dean, principal, secretary, or recorder) filled in the forms. In examining the list of respondents one observes that, almost without exception, the information in the forms has been supplied by authoritative and expert individuals. The fact that in 23 cases the data were supplied by directors of admissions gives evidence that in many institutions the general problem of articulation with the secondary schools is being considered important enough to require the full-time services of a specialist in that field.

3. INQUIRY FORMS SENT TO PUBLIC AND PRIVATE SECONDARY SCHOOLS

Data assembled from other inquiry forms.—At the outset of the national survey of secondary education three general inquiry forms were prepared and sent to State school officers,

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city superintendents, and principals of individual secondary schools. Only the form addressed to the secondary-school principals contained any inquiry relative to articulation.

In addition to the above-mentioned forms, a general inquiry was sent to private secondary schools. This form contained one item directly concerned with articulation.

Data secured from forms returned by principals of public secondary schools.—Two queries relating to the problem of articulation were included in the form sent to principals of individual secondary schools. The first of these had to do with the question of whether or not the secondary schools had records of the success in college of their graduates. Of the 2,196 schools responding to this form, only 561, or 26 per cent, reported that such records are kept. Furthermore, it is evident from the replies that not all the 561 schools are assembling these records in a painstaking way or upon their own initiative. Numerous responses such as the following were received: "First semester," "first year," "first term only," etc. These answers refer plainly to the records supplied by the colleges and may or may not have been supplied as a result of requests sent to the colleges by the secondary schools. One respondent states frankly, "Permanently, if sent by college." It is clear from the responses that most of the records follow the student through only a small portion of his college career, usually one school year or less. No inquiry was made to determine whether or not these records are used by the secondary schools to improve their methods of teaching and school procedures. Granted, however, that they are used for such purposes, it remains true that, from the viewpoint of effective articulation, far too few schools are at present securing such records.

In the second item dealing with articulation in the inquiry form sent to individual secondary schools the respondents were asked to describe any noteworthy practices which had been developed for the articulation of their schools with higher institutions. Only 33 of the 2,196 schools responding made any reply to this inquiry. Of the 33, only 22, or 1 per cent of all the responses, describe what are really plans of articulation. Others are mere statements of routine fact, such as, "Accredited by University of ———," "Any State

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college or university accepts our graduates to the freshman class," etc. Six of the 22 brief statements are significant enough to be cited here.

Delaware (Wilmington).—At times the high school cooperates with the University of Delaware in offering postgraduate high-school work to failing university freshmen.

Indiana (Gary), Emerson.—University extension courses have been organized so that a student may do two years of a university course here in the city. Subject promotion in all grades.

Maryland (Baltimore), City College.—Students who complete the accelerated curriculum (five years' work in four years; includes thirteenth grade work) are admitted to the second year of the College of Arts and Sciences at Johns Hopkins University if they have certification grades.

Ohio (Bellefontaine).—Use of radio, in French particularly. Receive broadcast from State university to aid in bridging gap between high-school French and its continuation in college.

Oregon (Boardman).—Student may take correspondence work from State university in high-school subjects during vacation periods. Credits earned acceptable upon passing local examination.

West Virginia (Huntington).—Our seniors may enroll in Marshall College with only 10 hours' recitation work per week in high school.

Not all the 22 statements represent noteworthy or unusual practices in the field of articulation; however, they indicate the types of plans for articulation with colleges which have been developed by the secondary schools. Among the plans, the general arrangement whereby pupils may pursue a limited amount of college work while completing the work of the high school, and whereby college credit can be earned by some plan of home study, is outstanding. This, of course, is only a repetition of the evidence which in many places has contributed to a demand for the junior college. Another notable fact in connection with the plans is the occasional mention of an arrangement whereby secondary-school and college personnel directors cooperate actively in studying student problems and in setting up devices for the improvement of articulation.

Only occasionally does one encounter a secondary school which is interested enough in the general problem of articulation to initiate its own experimentation in this field. Of course these schools, many of whose graduates will wish to enter higher institutions, can not carry on such experimenta-

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tion irrespective of these institutions. It is necessary for them, when their programs involve the revision of curriculums and teaching methods, to have their plans approved by the accrediting associations of which they and the higher institutions are members. Naturally, these associations are reluctant to become too liberal in this respect. Precedents, to be sure, are dangerous; yet the general inability of the colleges correctly to appraise the finished product of the secondary schools seems to justify the carrying on of cooperative experimentation in a larger number of carefully selected secondary schools. Such cooperative experimentation in the field of articulation has already been launched in a few public secondary schools; for example, in Joliet, Ill., and Greenville, S. C. A personal visit to the latter city revealed a serious and well-supervised experimental departure from the ordinary curriculum in one of the secondary schools. Also, some experimentation of this sort is going on in a few private secondary schools.

Data secured from forms returned by private secondary schools.—One item only respecting articulation with higher institutions was included in the form addressed to private secondary schools. This had to do with guidance. The respondents were asked to indicate whether or not their schools offered guidance to their pupils (apart from the guidance presented in the usual subjects of study) relative to their further education following secondary-school work. Seven hundred and sixty-one replies to the general inquiry form were received. Three hundred and seven, or 40 per cent of the 761 schools, report that definite guidance regarding continued education following secondary-school work is a regular part of their recognized programs. It is difficult to conjecture whether or not a greater portion of 761 public secondary schools would be found to offer such guidance than is found among that number of private schools. Without reference to the matter of whether or not secondary schools are public or private, if all secondary schools would supply their pupils with careful guidance in this field, many embarrassments and misfits would be avoided. It is an exceedingly thought-provoking fact that, so far as this study goes, the graduates of 60 per cent of the private secondary

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schools leave their campuses without having had any better than casual guidance concerning their future education.

4. ANTICIPATORY TO SUBSEQUENT CHAPTERS

In the remaining chapters of this report the data assembled for the special study of articulation will be presented. The general topic of admission to college will be discussed in Chapter II. This discussion will deal not only with the methods of admission employed at present by the higher institutions and the subjects required and accepted for admission, but will seek as well to point out trends and innovations in these fields. In Chapter III the investigation will turn from the general problem of admissions to that of the means of adaptation subsequent to admission. This phase of articulation is included in this study because of a conviction that the general problem of articulation does not focus entirely at the point of transition from high school to college. The major topics which will be considered in Chapter IV have to do with the difficulties encountered by the higher institutions in their efforts to improve articulation and the plans for the improvement of articulation which are at present operative. Special attention will be called to the plans which were reported by the institutions as having proved unusually successful. No new data will be introduced in Chapter V. Rather, this chapter will point out significant findings, discernible trends, promising leads, and certain problems growing out of the investigation.

CHAPTER II : ADMISSION TO COLLEGE

1. PHASES OF ADMISSION TREATED IN THIS CHAPTER

High-school graduates wishing to enter institutions of higher learning are confronted with a disconcerting assortment of entrance criteria. The methods by which these institutions select their freshmen students form a list that is extended and varied. Practices respecting subjects required and accepted for admission, along with other entrance provisions, give a definite idea of what the colleges expect of the secondary schools if their graduates are to be considered acceptable candidates for advanced training. Considerable effort has been made in this study to determine the trends among the colleges as regards the methods of admission, subjects required and accepted, and the extent to which the higher institutions revise their entrance requirements in recognition of the junior high school reorganization. The present chapter will concern itself with the presentation of the data concerning these three phases of the problem of admission. With specific reference to articulation, these data will show whether or not the higher institutions are liberalizing their admission standards and allowing latitude in their entrance requirements for administrative and curricular changes in the secondary schools.

1. METHODS OF ADMISSION

Single and combined methods of admission.—In making the investigation concerning methods of admission it has been recognized that requirements in this regard may appear singly or in combination and that they will differ in single institutions for regular and special students. Respondents were requested, therefore, to indicate for regular and special students the *single* methods by which entrance to their institutions might be gained. If students are required to qualify for admission under more than one entrance criterion, then the combination of methods used was called for. In

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addition to the request for data regarding single and combined entrance criteria for regular and special students, respondents were asked to specify the year in which their present standards were adopted and when other standards were dropped. Although this information is supplied by a smaller number of schools than was hoped for, enough data are available to make certain trends easily discernible.

It is probable that throughout this entire report, when the year of change is discussed, the data dealing with dates subsequent to 1924 are more reliable than those dealing with earlier dates. The absence of office records concerning these changes and the general turnover among college officials lend support to this supposition.

Methods used singly.—Twenty-one different methods were reported by the 517 institutions, conformity with any single one of which, in so far as they were employed by individual institutions, would grant regular students the privilege of pursuing advanced educational training. Twenty-two such methods were listed for special students. Of the 25 different methods reported for both types of students, 18 are duplicated for both types, whereas 3 are peculiar to the regular group and 4 are peculiar to the special group. In Table 2 the data respecting single methods of admission for regular and special students are presented according to the institutional classifications of this study. Thirteen methods are employed often enough by the 517 institutions to deserve inclusion in the table.

The 12 other single methods of admission for either regular or special students which were reported by the institutions are: (1) College aptitude test, (2) character rating, (3) recommended units, (4) health certificate, (5) evidence of ability to pursue college work, (6) permission of the president or other official, (7) business experience, (8) specific unit requirements, (9) honorable dismissal from previous school, (10) college work requirement, (11) four years' residence, and (12) teacher's certificate or experience. Clearly, some of these refer to specific types of students or institutions.

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TABLE 2.—Percentages of 517 institutions, variously classified, using 13 admission methods singly for regular and special students
(R, regular; S, special)

Classification	Num- ber of in- stitu- tions	High- school diplo- ma		High- school trans- script		College board exami- nations		Exami- nations by in- stitu- tion		Other exami- nations		High- school subject certifi- cates		Rank in high- school class		Intelli- gence test		Princi- pal's recom- menda- tion		Other recom- menda- tions		Per- sonal inter- views		No spe- cific re- quire- ment		Age re- quire- ment	
		R	S	R	S	R	S	R	S	R	S	R	S	R	S	R	S	R	S	R	S	R	S	R	S	R	S
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
Enrollment:																											
	300 and fewer.....	128	28	10	62	32	16	8	22	12	4	3	20	10	7	3	4	1	8	7	4	3	2	8	1	3	1
	301 to 500.....	138	25	7	62	36	24	12	23	14	10	5	15	7	14	3	1	1	4	6	1	4	3	11	4	4	9
	501 to 1,000.....	109	28	11	63	41	21	12	27	22	8	8	25	17	13	2	1	1	3	6	1	3	1	6	4	4	9
	1,001 to 2,000.....	78	19	10	73	33	37	21	35	22	14	6	28	19	17	3	1	6	3	4	1	3	3	17	6	1	9
	2,001 to 3,500.....	25	20	4	64	40	52	32	48	32	16	8	40	12	12	4	4	12	12	4	3	5	12	4	4	4	8
	3,501 and more.....	39	8	8	54	26	38	15	23	13	18	8	31	18	8	5	5	3	5	3	3	5	15	4	4	4	8
Region:																											
	New England.....	51	12	4	20	14	41	18	33	18	10	2	33	12	12	2	2	2	10	2	4	2	6	4	4	4	3
	Middle Atlantic.....	109	25	16	60	29	30	17	18	12	14	7	28	20	22	8	3	1	1	2	3	1	7	1	7	1	3
	South.....	118	33	10	71	35	24	15	42	26	10	4	25	12	4	4	3	3	6	8	2	3	1	12	8	1	13
	Middle West.....	180	20	8	73	41	19	12	22	16	6	3	19	10	11	3	3	2	6	4	2	2	3	8	1	3	4
	West.....	59	19	8	80	44	31	7	19	15	7	5	12	10	12	12	5	10	12	3	7	3	24	7	7	12	12
Type (public):																											
	Colleges and universities.....	70	17	9	79	43	43	21	49	29	13	6	24	16	7	7	7	7	3	10	3	3	17	9	1	1	7
	Teachers colleges and normal schools.....	114	30	6	60	28	12	10	16	16	9	6	14	10	3	3	2	2	4	4	1	1	8	1	4	1	9
	Total public.....	184	25	7	71	34	24	14	28	21	10	6	18	12	4	4	1	4	4	7	1	1	11	1	5	1	8
Type (private):																											
	Colleges and universities.....	313	22	9	61	37	29	14	27	16	9	4	27	13	17	4	2	1	6	6	3	5	3	11	4	4	5
	Teachers colleges and normal schools.....	3	33	100	100	100	100	67	6	1	1	1	12	12	33	33	1	1	1	1	1	1	1	1	1	1	33
	Others.....	17	18	18	29	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
	Total private.....	333	22	10	59	35	27	14	26	16	8	4	28	13	16	4	2	1	5	5	2	5	2	10	4	4	5
	Total.....	517	23	9	63	35	26	14	26	17	9	4	23	13	12	3	2	2	5	6	2	3	2	10	4	4	6

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When the data presented in Table 2 are examined, it needs to be remembered that the figures, with the exception of the first vertical column, are percentages. The data concerning private teachers colleges and normal schools, because of the small number of institutions, are considered insignificant. It needs to be remembered also that this table contains only the 13 most prominent criteria listed by the 517 institutions, conformity with any one of which will admit students to advanced training.

High-school diploma.—With reference to the high-school diploma as a single criterion by which students may gain entrance to college, 23 per cent of all the institutions report that regular students may gain entrance by meeting this requirement alone. In the southern region and among the teachers colleges and normal schools this method is most frequently found. The private colleges and universities are slightly more liberal in allowing admission by this standard than are the public colleges and universities. Nine per cent of all the institutions admit special students by this criterion.

High-school transcript of credits.—The wide practice among the schools of admitting both regular and special students on the basis of the presentation of a high-school transcript only is evident in the table. This practice is especially prominent for regular students among schools having an enrollment of 1,001 to 2,000, in the Middle West and West regions, and among the public colleges and universities. The low percentage (20) of institutions in New England which admit students by this criterion is notable. The percentage (80) of institutions in the West region which use this standard singly in admitting students is exactly four times the percentage for New England. Seventy-one per cent of the public institutions, as compared with 59 per cent of the private, employ this criterion. As a whole, 63 per cent of the 517 institutions admit regular students upon the basis of the presentation of a high-school transcript only, whereas 35 per cent admit special students in like manner.

College entrance board examinations.—Twenty-six per cent of all the institutions allow regular students to qualify for entrance by passing with a satisfactory rating the college entrance board examinations. This standard is most promi-

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nent among the larger schools, in the New England region, and among the public colleges and universities.

Examinations by the institutions themselves.—The data regarding the percentages of schools which devise and administer their own entrance examinations are interesting. Twenty-six per cent of all the schools follow such a practice in admitting regular students, and 17 per cent use this method for special students. In the cases of both regular and special students the percentages of institutions by enrollment groups rise steadily until, for the regular and special groups, the percentages become 48 and 32, respectively, for schools having enrollments of 2,001 to 3,500. The schools in the southern region, the public colleges and universities, and the schools having enrollments of 2,001 to 3,500 are out in front in following this practice. It will be noted later in this report that more institutions have abandoned the practice of administering their own tests, upon which entrance is based, than have abandoned any other single entrance criterion.

Other examinations.—Not many institutions indicate that examinations other than those given by the college entrance board or by the institutions themselves are used as single methods of admission. The larger institutions report other examinations most frequently. Outstanding among other examinations mentioned are the New York regents' examination and examinations by State departments of education.

High-school subject certificates.—High-school subject certificates are used as a single method of admission for regular students noticeably among the larger institutions, in the New England region, and among the private colleges and universities.

Rank in high-school graduating class.—The rank in high-school graduating class, although used as a single method of admission for regular students by only 12 per cent of all the institutions, is used by 22 per cent of the Middle Atlantic institutions, 17 per cent of the institutions having enrollments of 1,001 to 2,000, and 17 per cent of the private colleges and universities. Seven per cent of the public colleges and universities use this method, as compared with 17 per cent of the private colleges and universities.

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In order to determine whether or not any uniformity in the rank required exists among the institutions employing this method of entrance, the respondents were asked to specify what the requirements concerning rank were.

Among the 61 institutions which indicate that this method is used singly as an entrance criterion for regular students, 13 different ranks are named. Eight of these ranks, with the number of institutions reporting them, are as follows: Upper one-half, 19; upper two-thirds, 11; upper one-fourth, 9; upper one-third, 7; upper three-fourths, 3; upper four-fifths, 3; average of 80 per cent, 2; upper three-fifths, 2. Four per cent of the 184 public institutions included in this study use rank in graduating class as a single method of admission for regular students, whereas 16 per cent of the 327 private institutions have such a standard. Of the 61 institutions reporting such a standard, 53 are private, 4 are teachers colleges or normal schools, and 57 are colleges or universities.

Among the 61 institutions reporting concerning rank, there is a definite indication that the institutions of the New England and Middle Atlantic regions require a higher average rank in the high-school graduating class than the institutions of the Middle West and West regions. Not enough institutions of the South reported respecting rank to form a judgment concerning that region. Considered from the standpoint of enrollment groups, as the institutions increase in size (up to 2,000 enrollment) they tend to increase the portion of the high-school graduating class which will be admitted. Most of the small institutions referred to here are colleges and universities in the New England and Middle Atlantic regions. Several of them have enrollments of 300 or fewer students.

Intelligence test.—The use of the intelligence test only in selecting students for admission is rare. However, when used as a single criterion, it is used among the 517 institutions as frequently for special students as for regular.

Other methods.—In considering the remainder of the 13 methods included in Table 2, one fact is immediately noticeable, namely, that each method is used by a greater percentage of the institutions as a criterion for special students than

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for regular students. The extent of use of personal interviews in admitting special students, especially in the West, deserves mention. The large use of the principal's recommendation in the West, as compared with other regions, is also noteworthy.

An examination of the data in Table 2 by horizontal rows of figures shows which criteria are outstanding in single groups of institutions. Among all the enrollment groups the high-school transcript of subjects is uniformly in the lead. When regions are considered the order shifts. In New England the use among the institutions of the high-school transcript, as a single method of admission, is excelled by three other methods. The high-school transcript method is ahead in each of the other regions; but the prominence in the Middle Atlantic region of the college entrance board examination method, in the southern region of the high-school diploma and the local examination methods, and in the West of the college entrance board examination deserves to be pointed out. The differences in the percentages of public and private colleges and universities which employ various criteria are rather marked in some instances. The private colleges and universities are ahead in the extent to which they employ high-school diploma, high-school subject certificates, rank in high-school graduating class, intelligence test, principal's recommendation, and other recommendations as single methods in admitting students, whereas the public colleges and universities are ahead in the extent to which they employ high-school transcript, college entrance board examination, examinations devised and administered by the institutions themselves, and other examinations (chiefly regents and State department of education).

Methods of admission used in combination.—The combinations of methods under consideration here are those reported by the institutions as being most commonly used. In other words, each institution reported the one combination of criteria used most often in admitting regular students and the one used most often in admitting special students.

For regular students.—In addition to the 25 methods of admission used singly for regular and special students, listed by the institutions included in this study, 11 other methods

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are reported as being used in various combinations of entrance criteria; that is to say, 36 different criteria are reported by the 517 institutions as being used either singly or in combination in the admission of students. The 11 methods included in combinations of entrance criteria, but not used as single methods of admission, are as follows: (1) Adherence to a certain religious faith, (2) achievement test, (3) English test, (4) music, (5) State requirement, (6) photograph, (7) suitable preparation for subjects desired, (8) extracurriculum activities, (9) personality rating, (10) qualities of leadership, and (11) letter of information from student.

The low frequency with which any one combination of criteria appears among the institutions is outstanding. Only four combinations appear often enough to be mentioned. The leading one of these is the one including the two criteria, high-school diploma and transcript of high-school credits. However, less than two dozen of the 517 institutions report this combination as the one used most frequently in admitting regular students. Next to this combination in order of frequency of use is the one composed of the transcript of high-school credit and the principal's recommendation. About 15 institutions report this combination. Two other combinations are reported by approximately a dozen institutions. The first of these includes the transcript of high-school credits and the college entrance board examination; the second includes the transcript and an examination devised and administered by the school itself. The total number of combinations reported by any one group of institutions is awkwardly large. For example, 105 of the 138 institutions having enrollments of 301 to 500 report commonly used combinations of entrance criteria. Eighty-eight of the 105 report combinations different from every other combination. Similar data could be given for each of the other groups. Certainly if any one criterion (or any combination of criteria) has been proved by educational research to be more dependable than another, it has yet to be adopted by even a large percentage of the institutions. This is especially true when combinations of criteria are considered.

For special students.—The five combinations used most frequently in admitting special students are as follows: (1)

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Transcript of high-school credits and recommendations of principal, (2) transcript and examination given by the institution itself, (3) age limit and evidence of ability to do college work, (4) transcript and age limit, and (5) transcript and recommendation by persons other than the principal.

Criteria used most frequently in combination.—Although certain combinations of criteria do not recur often among the 517 institutions, some interesting data are available concerning the criteria which are most frequently used in one combination or another. The numbers of institutions which include certain individual criteria in their most commonly used combinations, for both regular and special students, are indicated in Table 3. Frequencies for 13 criteria are presented.

TABLE 3.—Number of institutions including certain items in their most common combinations of entrance criteria for regular and special students

Criterion	Regular		Special	
	Frequency	Rank	Frequency	Rank
1	2	3	4	5
1. Transcript of high-school credits.....	318	1	128	1
2. Recommendation of principal.....	262	2	93	2
3. Personal interviews with applicants.....	138	3	71	3
4. Rank in high-school graduating class.....	135	4	27	11
5. Recommendations by persons other than the principal.....	133	5	58	4
6. High-school diploma.....	131	6	42	8
7. Character rating.....	126	7	49	7
8. Presentation of high-school subject certificates.....	118	8	54	5
9. Examination devised and administered by institution.....	101	9	54	6
10. College entrance board examination.....	93	10	40	9
11. Intelligence test.....	93	11	24	10
12. College aptitude test.....	53	12	14	12
13. Other examination (regents, State board, etc.).....	44	13	14	13

The surpassing frequency with which the high-school transcript and the principal's recommendation are used in combinations of entrance criteria, for both regular and special students, is at once apparent. The fact that the personal-interview method ranks third in the frequency with which it is used in combination is somewhat surprising. This method, however, is followed closely (for regular students) by four other criteria. Character rating, interviews, and recommendations all rank well above the intelligence test in

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the frequency with which they are used in combination in admitting regular students. There is evidence in Table 3 to support the conclusion that the higher institutions in admitting students are supplementing the traditional high-school record and old-type content examinations as much by information regarding the personal and character traits of the candidate (recommendations, interviews, character rating, etc.) as by information gleaned through the new-type intelligence and aptitude tests. It may be thought by some that this conclusion is not justified if only recent years are considered. However, reference to the data in Table 4 shows that the percentages of institutions which have adopted criteria concerning personal and character traits (1925 and after) compare favorably with the percentages of institutions which have adopted intelligence and aptitude tests as criteria since the same date.

In general, the ranks of the criteria presented in Table 3 parallel closely for regular and special students. One exception is outstanding. Whereas the rank in high-school graduating class ranks fourth for regular students, the same criterion ranks eleventh for special students in the frequency with which it appears in some combination of entrance criteria. This, of course, is in large part due to the fact that many of the special students have never graduated from high school.

A few interesting differences occur when the ranks of the criteria included in Table 3 are considered by regions. These data are not included in the table. It is important to remember that consideration is given to entrance criteria which appear most frequently in combination with other criteria, and not to the criteria which serve as single methods of admission. The transcript of high-school credits and the recommendation of the principal rank either first or second in all the regions. Personal interviews with applicants ranks third in the Middle Atlantic region and tenth in the West. Rank in high-school graduating class ranks third in the Middle West and tenth in the South. High-school diploma ranks third in the South and eleventh in the West. Other differences are not pronounced enough to be significant.

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The order of rank among the criteria used *singly* as methods of admission for regular students is by no means duplicated when the order of rank among the criteria which appear most frequently in *combination* is considered. Some of the outstanding single criteria, namely, college entrance board examination, examination by local institution, and presentation of high-school subject certificates, rank well down the list of criteria used most frequently in combination.

Trends among the criteria.—It was stated earlier in the chapter that respondents were requested to specify the year in which present entrance criteria were adopted and when others were dropped. Fewer institutions than was desirable furnished this information. Summary data for the entire group of institutions are, therefore, more significant than the data for subordinate classifications.

Criteria which have been added.—Enough institutions gave data concerning the date of adoption of 13 different criteria to make trends among these criteria discernible. At least it is possible in this list to determine which criteria have been most frequently adopted as entrance standards since 1924. The discrimination between admission methods used singly and methods used in combination is not maintained here. The institutions were asked merely to indicate when each of the entrance methods used was adopted as an admission criterion. In Table 4 are indicated (1) the total number of institutions reporting adoption of individual criteria since 1899, (2) the number reporting adoption since 1924, and (3) the extent to which all adoptions over the entire period 1899 to 1930 have been made since 1924.

In addition to the 13 criteria included in Table 4, 11 other criteria are specified as having been adopted by one or more institutions since 1899. Of these, the one requiring a health certificate is mentioned most frequently. Twenty of the 24 criteria adopted since 1899 have been adopted by one or more institutions since 1924.

A study of the percentages for the criteria included in Table 4 gives some indication of what types of criteria the higher institutions have been adopting in recent years and what sort of information concerning students they are interested in securing. Six of the criteria suggest recency.

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These are: (1) College aptitude test, (2) personal interview, (3) rank in high-school graduating class, (4) recommendations by persons other than the principal, (5) intelligence test, and (6) character rating.

TABLE 4.—Number of institutions reporting adoption¹ of 13 entrance criteria since 1899 and since 1924

Criterion	Institutions adopting since 1899	Institutions adopting since 1924 ¹	Per cent adopting since 1924
1	2	3	4
1. Diploma from an accredited high school.....	39	11	28
2. Transcript of high-school credits.....	75	17	23
3. College entrance board examination.....	34	13	38
4. Examination by local institution.....	22	12	55
5. Other examination.....	14	7	50
6. Presentation of high-school subject certificates.....	22	8	36
7. Rank in high-school graduating class.....	38	28	74
8. Intelligence test.....	29	21	72
9. College aptitude test.....	21	19	90
10. Character rating.....	15	9	60
11. Recommendation by principal.....	43	24	56
12. Other recommendation.....	25	18	72
13. Personal interview.....	20	15	75

¹ These are included also in the preceding column.

Among the largest institutions, with enrollments of 3,501 and more, three criteria are outstanding in the extent to which they have been adopted since 1924. These are: (1) Principal's recommendation, (2) recommendation by persons other than the principal, and (3) personal interviews. In the New England region there is no one criterion which stands out above the others in the extent of its adoption among the institutions since 1924. Two criteria are notable in the Middle Atlantic region. They are rank in graduating class and personal interviews. There are also two outstanding criteria in the South, namely, rank in graduating class and intelligence test. In the Middle West, rank in graduating class, intelligence test, aptitude test, recommendation by the principal, and recommendation by persons other than the principal stand out. Finally, in the West, four criteria seem to have found special favor since 1924. These are rank in graduating class, character rating, recommendation by the principal, and recommendation by persons other than the principal. The public institutions are being surpassed by the private in the portion of institutions which

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have adopted since 1924 the commonly recognized newer criteria.

Criteria which have been dropped.—Along with the information respecting the adoption of criteria, consideration should be given to the criteria which have been dropped. Only eight criteria are mentioned by the institutions as having been dropped since 1899. These are, with the number of institutions reporting abandonment; (1) Examination devised and administered by the local institution, 10; (2) high-school diploma, 8; (3) presentation of high-school subject certificates, 3; (4) transcript of high-school credits, 3; (5) intelligence test, 2; (6) recommendation by principal, 1; (7) recommendation by persons other than the principal, 1; and (8) teacher's certificate or experience, 1. Eight of the 10 schools reporting the abandonment of the examination by the local institution indicate that such abandonment has been made since 1924. Reference again to Table 4 shows that 12 institutions have adopted the local examination as a criterion since 1924. It appears, therefore, that this criterion is the only one which is being adopted and abandoned in about equal numbers by the institutions.

The small number of institutions reporting the abandonment of criteria seems to indicate that, in revising their admission standards, the higher institutions do not discard an existing criterion when another one is adopted; rather, the new criteria are merely added to the prevailing ones. This failure to drop existing criteria may be due to the traditional hold which they have upon the institutions or to the fact that the institutions have greater faith in a combination of criteria than in a single criterion as a means of predicting success in college.

Evaluative studies of methods of admission.—It is impossible in this report to review all the literature extant relating to the methods of admission to college, much less that relating to the general problem of articulation as it is approached in this investigation. A bibliography of more than 400 references has been assembled, but citations to certain of these references can be made only rarely. In the field of methods of admission a few studies have been made which have attempted to determine the predictive value of certain entrance

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criteria. It is appropriate here briefly to mention some of these and to indicate their findings.

In a survey of studies made to determine the value of high-school marks as indicators of success in college, George D. Stoddard says:

Correlations reported between high-school average and first-semester college average run from 0.25 to 0.65, with a central tendency of 0.40. Thus MacPhail reports a correlation of 0.29 at Brown University; Johnston reports $r=0.63$ for Minnesota; Wood reports $r=0.33$ for Columbia; and numerous other values between these extremes could be cited.¹

Scates found a correlation of 0.56 between the high-school average and the first year of work in the University of Chicago.² This study involved 3,507 students. In a study involving 451 students in another college, H. E. Underbrink found the same correlation ($r=0.56$) when the same factors are related.³ In the University of Washington, Brammell found a correlation of 0.51 between the total high-school average and the university freshman average.⁴ Numerous investigators who have made comparative studies find that the high-school record indicates more accurately the chances of success in college than any of the other criteria which they studied. Johnston found this to be true in the University of Minnesota, Proctor in Stanford University, Brammell in the University of Washington, and other investigators have secured similar results in other institutions.

In a master's thesis,⁵ M. L. Hulse surveys the studies which have been made to determine the value of intelligence tests in predicting success in college. Hulse found coefficients

¹ Stoddard, George D. *The Use of Quantitative Measurement in Inducting the Student into the Institution of Higher Learning and in Predicting His Academic Success*. Studies in Education, Yearbook No. XYIII of the National Society of College Teachers of Education, 1930. Ch. IV, p. 102.

² Scates, Douglas Edgar. *Selective Admission and Selective Retention of College Students at the University of Chicago*. Doctor's thesis, September, 1928. School of Education, University of Chicago, Chicago, Ill.

³ Underbrink, Henry E. *The Relationship between High-School Marks and Success in College*. Master's thesis, August, 1929. School of Education, University of Chicago, Chicago, Ill.

⁴ Brammell, Paris Roy. *A Study of Entrance Requirements in the University of Washington*. Doctor's thesis, June, 1930. School of Education, University of Washington, Seattle, Wash.

⁵ Hulse, Melvin L. *The Relationships Between Intelligence Test Ranks and Scholastic Grades*. Master's thesis, 1929. School of Education, Cornell University, Ithaca, N. Y.

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ranging from 0.24 to 0.72 when the first year's average in college is correlated with intelligence. From his own study, involving 425 students, he concludes that the decile ranks alone, as determined by the National Research Council tests in 1924, are inadequate for purposes of prognosis. J. W. Jones obtained a correlation of 0.52 between the scores earned by 512 students on an intelligence test and their scholastic achievement during their first years in a teachers college.⁶ In a study of the correlation between the same two factors, Brammell obtained a coefficient of 0.273.⁷ This study included 1,609 students. As in the case of the high-school record, some investigators have found the intelligence test to be more accurate in predicting success in college than other criteria.

Other studies made to determine the predictive value of other single criteria could be cited at length. The rank in the high-school graduating class and the results on achievement or content tests have been studied repeatedly, and are claimed by some to be highly dependable in predicting success in college. The worth of character rating, personal data, and various recommendations are also being objectively examined.

It should be pointed out, finally, that many investigators conclude that the best results in setting up entrance standards can be obtained by employing not a single criterion but a combination of criteria.

Innovations in methods of admission.—In an effort to discover unusual plans of admission which are being used by individual institutions, space was provided in the inquiry form in which the respondents were urged to "describe briefly any innovating plan which your institution has recently adopted in selecting new students." Ninety-six of the total of 517 respondents supplied descriptions of plans on the inquiry form. Also in a few cases plans were outlined in special letters which were returned with the inquiry forms.

⁶ Jones, John William. *Scholastic Prognosis and Entrance Requirements in a State Teachers College*. Doctor's thesis, 1929. School of Education, Indiana University, Bloomington, Ind.

⁷ Brammell, Paris Roy. *A Study of Entrance Requirements in the University of Washington*. Doctor's thesis, June, 1930. School of Education, University of Washington, Seattle, Wash.

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However, most of the statements do not represent innovations at all. They were no doubt reported because they were new and untried in the institutions reporting them, but in the general field of admission requirements they are not new. Nevertheless, a few things are notable when these plans are analyzed and grouped.

Requirements in specific subjects.—Several institutions report that they have eliminated all, or nearly all, specified subject requirements for entrance. If any subject requirement is maintained at all, it usually is in English. A few such institutions include Antioch College and the University of California (before 1931), which have no specific subject requirements at all; Pomona College and Stanford University, which have requirements only in English; and the Pennsylvania State College, which is steadily decreasing the subject-matter requirements but is at the same time tightening the requirement in so far as rank in high-school graduating class is concerned. In most of the institutions which have no specific subject requirements a group of subjects is nevertheless recommended, acquaintance with which will aid the students in pursuing their college courses more successfully. The University of California, without any specific subject requirements between 1919 and 1930, inclusive, began in August, 1931, to specify that 10 of the 15 units required for admission must be earned in subjects which the institution regarded as important prerequisites for university work.⁸ There seems to be among the institutions which have gone all or most of the way in eliminating specific subject requirements a difference of opinion as to the merits of such an entrance standard.

Types of high-school courses.—Some institutions discriminate specifically against certain types of high-school courses, whereas other institutions state just as specifically that no such discrimination will be made. Such practices, of course, are not innovational. For example, the respondent for the State normal school at Farmington, Me., says, "We discriminate against the commercial course in high school

⁸ The plan of admission between 1919 and 1930 and the details of the new plan, beginning in August, 1931, are described in five issues of California Notes, May 1, 1932, to Mar. 16, 1931, published by the University of California Press, Berkeley, Calif.

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for normal-school admission." On the other hand, the respondent for the Pennsylvania State College anticipates the early adoption by most of the departments in that institution of a policy whereby all subject-matter entrance requirements will be eliminated and any high-school graduate will be admitted "on the basis of 15 elective units, provided, of course, that he is graduated in the upper two-fifths of his class. This privilege will be extended not only to those who have been graduated in academic courses but to those who may have been graduated in vocational or commercial courses."

Scholarship standards.—A large number of institutions, in describing revised standards of admission, which to them are innovations, report that vigorous steps have been taken in raising the scholarship standard. This standard includes rank in the high-school graduating class and number of subjects which must be represented by certain marks. Typical among the institutions reporting the raising of standards in this regard is the University of Washington. Other institutions are limiting more and more the portion of the high-school graduating class from which they will accept candidates for admission. The Pennsylvania State College is typical of this tendency. Numerous other institutions report special renewed emphasis on high-school scholarship. These include institutions such as Stanford University, New York State Teachers College at Albany, Mills College, and the University of Georgia.

Substitute criteria.—As entrance requirements are made more severe many institutions find it advisable to devise means by which candidates unable to qualify under regular standards can still have opportunity to attempt to qualify by other means. This precaution is commendable. It demonstrates the fact that the higher institutions recognize that their adopted standards are not infallible, and that occasionally the secondary-school record of an applicant is not a fair portrayal of his knowledge or abilities. In most cases the reports concerning these substitute criteria are from institutions requiring that applicants must have attained a specified rank in their high-school graduating classes. Explanation is then given of the methods by which those falling below the specified minimum rank can attempt to qualify

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for entrance. These methods most commonly include an intelligence or aptitude test and subject-matter examinations. Typical among the institutions following such practices are Washington University, Lafayette College, University of Chattanooga, and the University of Pittsburgh.

Scholarship and personal rating.—In a few institutions scholarship and personality have been assigned definite values in evaluating an applicant's record. For example, in the State normal school at Framingham, Mass., scholarship attainments are weighted as follows: A, 5 points; B, 4 points; C, 3 points; and D, 2 points. Personality, spread over 10 stated characteristics, is rated as follows: Excellent, 2½ points; good, 2 points; fair, 1½ points; and poor, 1 point. In the Worcester (Mass.) State Normal School, in case of an excess of applicants, candidates are selected on the basis of 75 points for scholarship in 15 units of work and 25 points for personality. Applicants in Stanford University are rated in (1) high-school marks, (2) aptitude test, and (3) personal rating. The ratio used is 3:3:4.

Many other institutions, without specifying definite proportionate values, indicate that they are now making extensive use of such requirements as various recommendations, character and personal ratings, and personal interviews. Fewer institutions report intelligence or aptitude tests as being used prominently in the selection of candidates. It will be seen later in this report that these tests are administered to the entering students in many institutions, but do not constitute prescribed methods of admission.

Recommendations by the principal.—Various degrees of emphasis are being placed upon the principal's recommendation as an entrance criterion. This, too, is by no means an innovating criterion. Some institutions indicate that in the revision of their entrance standards they are not interested in retaining this criterion. On the other hand, other institutions make serious use of it. For example, the University of Michigan reports that no special revision of entrance criteria has been made, "except that we have urged the principals to be very careful in their recommendations."

Rating by alumni.—Cornell University and Marywood College give special attention to candidates who have been

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interviewed and recommended by the alumni of their institutions.

Cooperative research.—In some States all the higher institutions have organized and agreed upon uniform entrance criteria. This, of course, is true more often among the State-supported higher institutions in a single State, whose entrance standards may be prescribed by law. One of the most hopeful and generally scientific approaches to the entire problem of college entrance is the comprehensive manner in which all the colleges and all the high schools in a few individual States are cooperating for state-wide, long-time studies of admission problems. Ohio, Pennsylvania, and Minnesota may be mentioned as typical States in which such cooperation is effective. Extensive testing programs are, of course, necessary. In such a program in Ohio the Ohio State University has drawn up a list of 200 research problems for a 5-year inquiry into the college-entrance problem. In Minnesota the results secured from the testing program go direct to school administrators and parents, making possible a great amount of school and family guidance prior to the filing of applications for admission to the higher institutions. In Colorado a joint college and high-school testing program is being discussed. Agitation for such a program has begun in the State of Washington. Without recommending uniform entrance criteria for all the higher institutions in a single State, it can nevertheless be said that the problems relating to college entrance can be solved more readily and more conclusively if the higher institutions will agree to and promote a program of cooperative study, with themselves and the secondary schools as participants.

College plan in the University of Chicago.—The new college plan in the University of Chicago does not have as a part of it an innovating plan of college admission. On the other hand, the requirements for admission to the University of Chicago are not entirely novel among the higher institutions. The Chicago experiment has more to do with the administration of plans subsequent to admission than with admission standards themselves.

Although not many really innovating plans of college admission were reported to this study, nevertheless considerable

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change from certain standards to others is in evidence. More noticeable than the amount of change, however, is the extent to which additional standards are being added to those already in effect.

3. SUBJECTS REQUIRED FOR ADMISSION

Variation in requirements.—Mention has already been made of the fact that practices among the institutions as to the number of entrance units required in specified subjects vary widely. A few institutions have no subject requirements at all, a few others have requirements only in English, and others specify the subject matter for nearly all the 15 units which are usually required for admission.

Data concerning this phase of entrance requirements were collected for the five subject fields in which requirements are most often prescribed, namely, English, mathematics, social studies, natural science, and foreign language. Space was provided wherein respondents could supply information for other subjects. Recognition was given to the fact that standards are not always uniform among the colleges, divisions, or departments within a single institution. Consequently, opportunity was given for the presentation of data for divisions, departments, or whatever the separate administrative units might be called. Furthermore, for each subject field the respondent was asked to specify the present unit requirement, what it had been prior to the present standard, and in what year the present standard was adopted. As a result, data indicating trends are available in each subject field for individual departments and for institutions of various sizes and types and in various regions. It is the purpose in the present discussion to present the data for each subject field separately. The first to be discussed is English.

English.—Thirty-seven different departments^{*} specified the number of English units required for admission. The present unit requirement was specified 1,133 times by 37 different departments, whereas the unit standard prior to

^{*} The term "department" as used in this discussion refers to the administrative units for various fields of instruction in an institution, such as liberal arts, engineering, education, and others. Among the institutions, these are variously referred to as colleges, divisions, schools, departments, and the like; but in this discussion they are called departments.

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the present one was indicated 112 times by 18 different departments. The largest responses were received from the liberal arts and education departments. Enough data were received for 12 of the 37 departments to carry the identity of the 12 throughout this discussion. The identity of the remaining 25 departments will not be maintained, although data for them are included in the summary computations. The data for each of the five subject fields to be discussed here will be presented, first, for the groups of institutions used in this study; second, for 12 selected departments; and, third, according to the year of change from certain requirements to others, to reveal trends.

Data by groups.—The institutions included in this study, it will be remembered, are grouped into three main classifications, each of which is subdivided into other smaller groups. Effort has been made in Figure 1 to tell the summary story for all these groups, so far as the average number of units required in English is concerned. Both the present requirement and the requirement prior to the present one are indicated. The averages given in the figure are based on changes which have been made since 1899. The number of cases for each group represents the total number of departments which reported the number of units required at present and the total number which reported the number required prior to the present standard.

In Figure 1 not quite all the departments included in the classifications by enrollment and region are included in the classification by type due to the fact that the number of departments in private teachers colleges and normal schools and miscellaneous private institutions is too small to justify inclusion. These groups of private institutions are omitted throughout the remainder of this report.

The figures and tables presented throughout the discussion concerning the number of units in five subject fields required for admission to college will contain rather complete data. It will be impossible, however, to discuss these data in detail. Only a few outstanding facts can be pointed out. Nevertheless, persons who wish to make a more thoroughgoing study of the findings will have recourse to the detailed data.

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A few of the most notable facts revealed by the data in Figure 1 are listed as follows:

(1) The average number of units required at present in English is not materially affected by the size of the institution, the region in which the institution is located, or the type of institution.

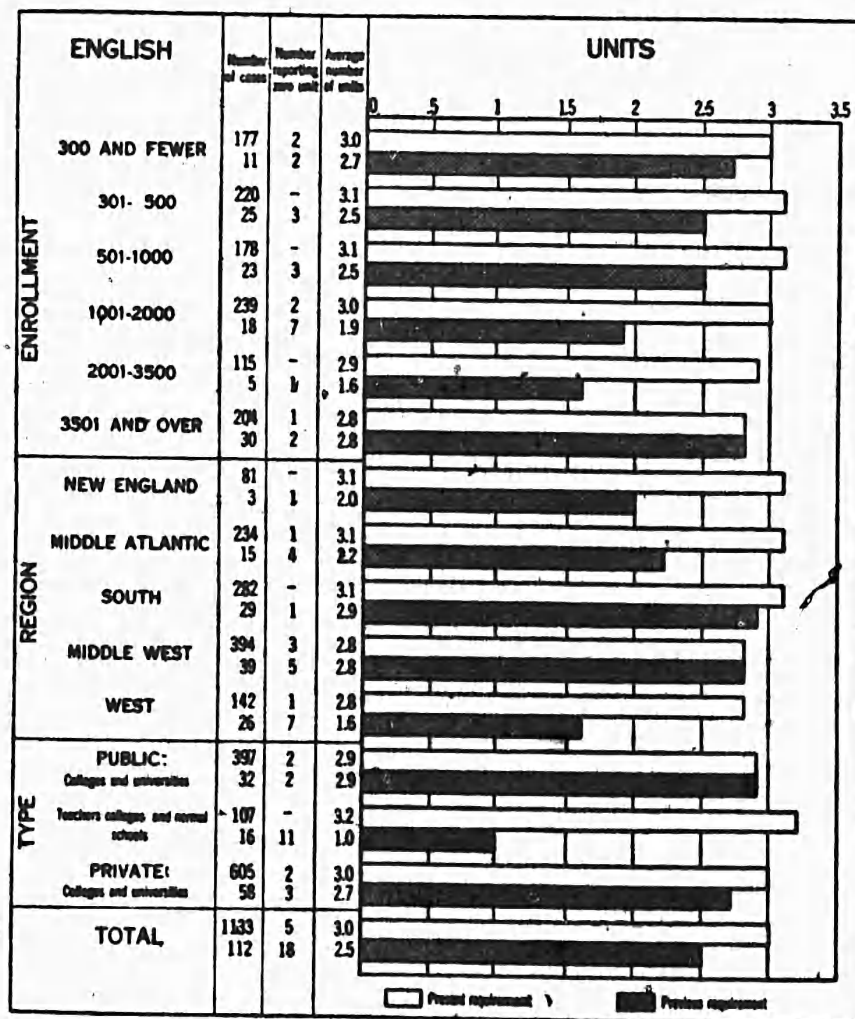


FIGURE 1.—Average number of units of English required for college entrance at present and number required prior to present standard

(2) For no group of institutions is the average number of units required at present exceeded by the average number required prior to the present standard.

(3) The previous requirement in English tended to become smaller as the institutions increased in size.

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(4) The greatest increase in the present over the previous requirement is found among the institutions ranging in size from 1,001 to 3,500, those located in the New England, Middle Atlantic, and West regions, and among public teachers colleges and normal schools.

(5) Almost four times as many zeros are reported for previous as for present requirements.

Some of the average previous requirements in Figure 1 are based on a small number of cases. Furthermore, some of them are low, due to the fact that a large number of the previous requirements were reported to be zero. This criticism is applicable to some of the averages for the previous requirements in each of the five subject fields to be studied.

Data by departments.—Data concerning the average number of units of English required by 12 departments are summarized in Table 5.

TABLE 5.—Average number of entrance units of English required at present and required previously for 12 departments

Department	Present				Previous			
	Number of cases	Average	Range	No requirement	Number of cases	Average	Range	No requirement
1	2	3	4	5	6	7	8	9
Liberal arts.....	372	3.0	0-4	2	38	2.8	0-4	2
Science.....	87	3.0	2-4		4	3.7	3-4	
Engineering.....	89	3.0	1-4		7	2.0	1-4	
Business administration.....	67	3.0	2-4		7	3.0	2-4	
Commerce and finance.....	38	3.0	2-4		3	2.0	0-2	1
Music.....	72	3.0	2-4		8	2.0	0-4	3
Architecture.....	26	3.0	2-3		2	3.0	2-4	
Education.....	142	3.0	0-4.5	3	19	2.0	0-4	7
Agriculture.....	34	3.0	2-4		4	2.7	2-4	
Journalism.....	25	2.8	2-3		1	2.0		
Physical education.....	29	3.0	2-4		3	2.0	0-2	1
Home economics.....	20	3.0	3-4					

The most notable fact concerning the data in Table 5 is the approximate equality of the average present requirement for all the departments listed. Only the science department has an average present requirement that is lower than the average previous requirement. The education department is outstanding for the range in the number of units required at present, for the difference between the present and previous requirements, and for the number of zero requirements reported.

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Year of change.—Data regarding the date of increase or decrease in the number of units required in English are found in Table 6.

TABLE 6.—Data regarding the date of increase or decrease in the number of units of English required for admission to college

Classification	Total number of increases since 1899	Number of increases in column 2 made since 1924	Percentage that column 3 is of column 2	Total number of decreases since 1899	Number of decreases in column 5 made since 1924	Percentage that column 6 is of column 5
1	2	3	4	5	6	7
Enrollment:						
300 and fewer	4			4	3	75
301 to 500	19	15	79	5	5	100
501 to 1,000	18	10	55	6	1	17
1,000 to 2,000	14	7	50	3	2	66
2,001 to 3,500	5	1	20			
3,501 and more	14	7	50	15	10	66
Region:						
New England	2					
Middle Atlantic	9	6	65	5	2	40
South	24	18	75	5	2	40
Middle West	16	5	31	20	15	75
West	23	11	48	3	2	66
Type:						
Public—						
Colleges and universities	20	10	50	14	11	79
Teachers colleges and normal schools	14	3	21	1	1	100
Private—						
Colleges and universities	36	23	64	18	9	50
Total	74	40	54	33	21	64

The data in Table 6 reveal the following facts, among others:

(1) More than twice as many increases as decreases in the number of units required in English have been made since 1899. This proportion is approximated for the period of years since 1924.

(2) Fifteen of the twenty-one decreases made since 1924 are in institutions in the Middle West.

(3) The institutions in the 301 to 500 enrollment group and in the southern region were in general last to increase the number of units required in English.

(4) Only the largest enrollment group and the Middle West region report a greater number of decreases than increases since 1899; this is also true for the period since 1924.

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(5) The notable excess of the present over the previous requirement in English among the teachers colleges and normal schools, apparent in Figure 1, is due to changes made mainly prior to 1925.

Mathematics.—The previous requirements in mathematics are specified more times than was true for English. This may be due to the fact that changes have occurred more fre-

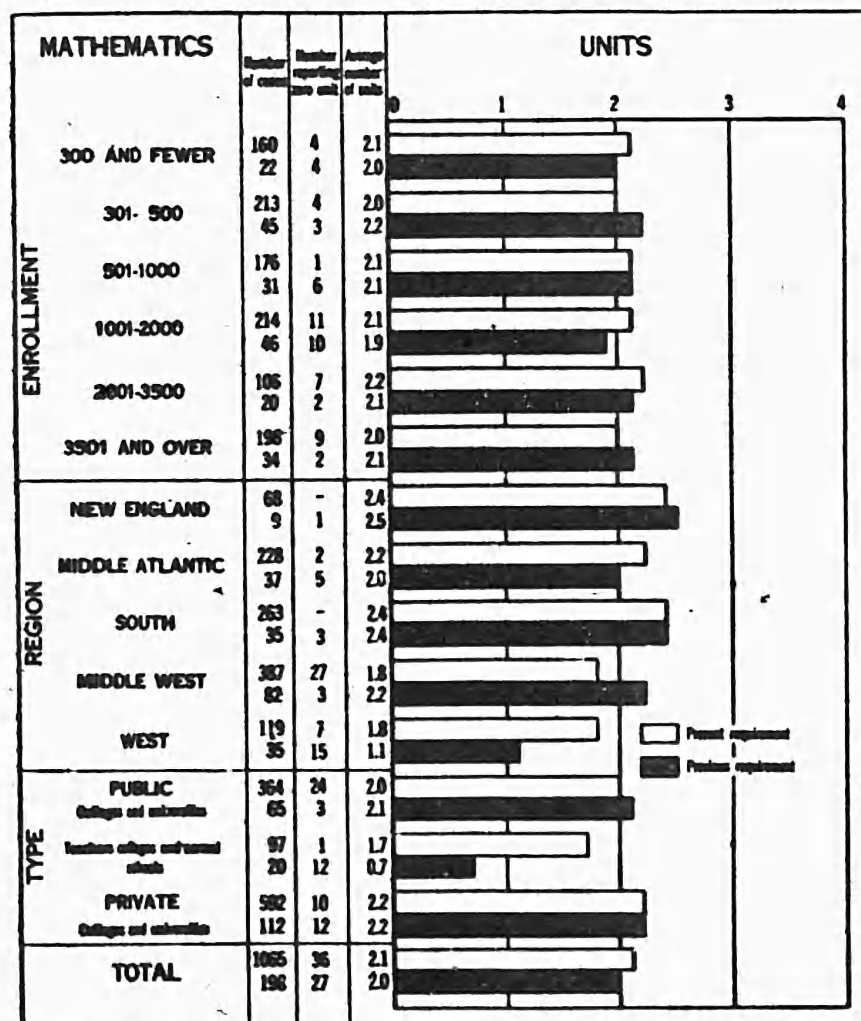


FIGURE 2.—Average number of units of mathematics required for college entrance at present and number required prior to present standard

quently in the mathematics than in the English requirements. The present requirement was specified 1,065 times.

Data by groups.—In Figure 2 the data for mathematics are summarized according to the classifications of institutions used in this study.

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Although numerous facts and comparisons may be observed in Figure 2, only a few of those which are of a more general nature can be mentioned here. Some of these are:

(1) The average number of units of mathematics required at present for entrance to college ranges from 1.7 among the public teachers colleges and normal schools to 2.4 among the institutions in New England and the South.

(2) The requirement in mathematics is affected more by the region in which the institutions are located and by the type of institution than by the size of institution.

(3) The Middle West is outstanding in the excess of its previous over its present requirements.

(4) Twenty-seven of a total of 36 zero requirements are reported by institutions in the Middle West.

(5) In mathematics, more cases of present than previous zero requirements are reported, whereas in English there were nearly four times as many previous as present zero requirements.

Data by departments.—The departments included here are the same as those for which data regarding English were presented in Table 5.

TABLE 7.—Average number of entrance units of mathematics required at present and required previously for 12 departments

Department	Present				Previous			
	Number of cases	Average	Range	No requirement	Number of cases	Average	Range	No requirement
1	2	3	4	5	6	7	8	9
Liberal arts.....	354	2.1	0-3.5	10	81	2.2	0-4	7
Science.....	86	2.3	0-4	2	13	2.6	2-4	
Engineering.....	88	2.9	1-4.5		13	2.5	2-4	
Business administration.....	67	1.9	0-3	1	11	2.1	0-4	1
Commerce and finance.....	36	1.9	0-3	1	4	1.0	0-2	2
Music.....	66	1.8	0-3	4	15	1.8	0-3	4
Architecture.....	26	2.5	1-4		2	2.5	2-3	
Education.....	127	1.7	0-4	7	24	1.5	0-2.5	8
Agriculture.....	32	1.8	0-3	3	6	2.4	2-3	
Journalism.....	21	2.0	0-3	1	1	2.0		
Physical education.....	29	1.8	0-3	1	3	1.6	0-3	1
Home economics.....	20	1.8	0-2.5	1	2	2.0		

The range among the 12 departments listed in Table 7, in the number of units of mathematics required for entrance at

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present, is from 1.7 for the education department to 2.9 for the engineering department. The three departments having the highest requirements are engineering, architecture, and science. All in all, there is evidence in the table to support the generalization that, in respect to mathematics requirements, departments are following the reasonable practice of suiting the requirement to the nature of the field of study.

Year of change.—Data regarding the increase or decrease in the number of units of mathematics required and the comparative recency of such changes are presented in Table 8.

TABLE 8.—Data regarding the date of increase or decrease in the number of units of mathematics required for admission to college

Classification	Total number of increases since 1899	Number of increases in column 2 made since 1924	Percentage that column 3 is of column 2	Total number of decreases since 1899	Number of decreases in column 2 made since 1924	Percentage that column 6 is of column 5
1	2	3	4	5	6	7
Enrollment:						
200 and fewer.....	8	4	50	11	7	64
301 to 500.....	9	6	66	33	25	76
501 to 1,000.....	10	8	80	21	11	52
1,001 to 2,000.....	22	14	64	23	13	57
2,001 to 3,500.....	7	4	57	12	1	8
3,501 and more.....	9	3	33	22	18	82
Region:						
New England.....	6	4	66	3	1	33
Middle Atlantic.....	19	13	68	17	15	88
South.....	15	9	60	20	14	70
Middle West.....	5	2	40	68	34	50
West.....	20	11	55	14	11	79
Type:						
Public—						
Colleges and universities.....	17	11	65	46	26	57
Teachers colleges and normal schools.....	14	4	29	6	6	100
Private—						
Colleges and universities.....	34	24	71	70	43	61
Total.....	65	39	60	122	75	61

Practically twice as many decreases as increases have been made since 1899 in the number of units of mathematics required for entrance to college. The same proportion exists for the changes since 1924. In the Middle West, 68 decreases since 1899 are reported, as against five increases since the same date. The general trend since 1924 in the

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number of units required for admission is downward, although for certain groups this general trend is not borne out.

Social studies.—The data for the social studies are presented in accordance with the plan of presentation adopted for each of the five subject fields.

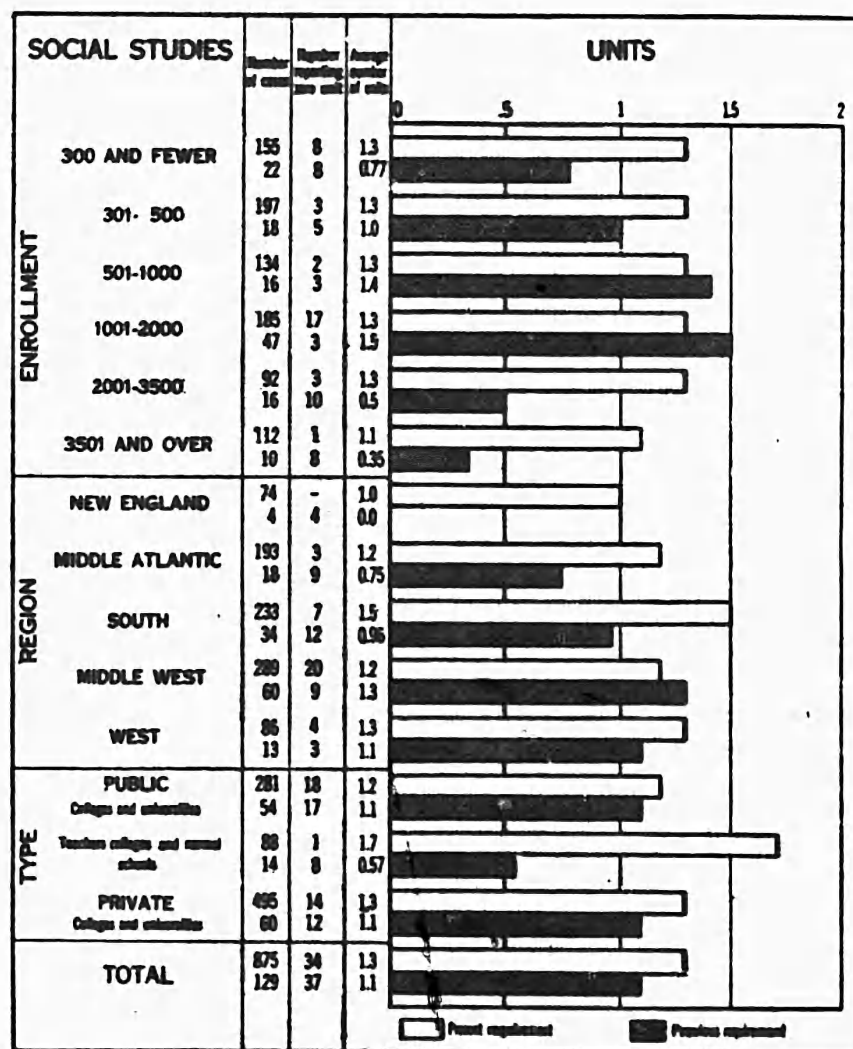


FIGURE 3.—Average number of units of social studies required for college entrance at present and number required prior to the present standard

Data by groups.—Figure 3 presents the data for the social studies, grouped according to the classifications used throughout this report.

Little discussion of Figure 3 is necessary. A few facts gathered from the data are worthy of mention.

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(1) There is a slight tendency for the number of units required in the social studies to decrease as the size of the institutions increases.

(2) The requirement in the social studies is affected more by region and type than by size.

(3) The present high requirement among the public teachers colleges and normal schools is notable.

(4) There is much more variation among the previous requirements than among the present ones.

(5) In spite of a general increase since 1899, three groups report slight decreases since the same date. These are the 501 to 1,000 and the 1,001 to 2,000 enrollment groups and the Middle West region.

Data by departments.—Data for the 12 departments whose identity is being maintained throughout these discussions are presented in Table 9 for the social studies.

TABLE 9.—Average number of entrance units in the social studies required at present and required previously for 12 departments

Department	Present				Previous			
	Number of cases	Average	Range	No requirement	Number of cases	Average	Range	No requirement
1	2	3	4	5	6	7	8	9
Liberal arts.....	304	1.2	0-4	14	48	1.0	0-3	13
Science.....	75	1.3	0-2.5	1	4	1.3	0-2	1
Engineering.....	63	1.1	0-2	4	9	1.2	0-2	3
Business administration.....	51	1.3	1-3	.....	5	1.7	1-2	.....
Commerce and finance.....	30	1.2	1-3	.....	2	.5	0-1	1
Music.....	57	1.3	0-2	1	10	.7	0-2	4
Architecture.....	19	1.1	0-2	2	5	.9	0-2	2
Education.....	106	1.5	0-4	5	20	1.1	0-3	6
Agriculture.....	25	1.1	0-2	2	6	1.4	0-2	1
Journalism.....	17	1.4	1-2	.....	1	2.0	2	.....
Physical education.....	23	1.3	1-2	.....	1	.....	.....	1
Home economics.....	17	1.2	0-2	1	2	1.75	1.5-2	.....

Among the 12 departments, the lower present requirements are found where they would perhaps be most expected; that is, in the engineering, architecture, agriculture, and home economics departments. In two departments, namely, liberal arts and education, the present is appreciably above the previous requirement. If the liberal arts department be taken as representative of institutional policy, then the

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general trend among the institutions in the requirement in the social studies has been slightly upward since 1899.

Year of change.—In Table 10 the data respecting the date of increase or decrease in the requirements in the social studies are classified and summarized.

TABLE 10.—Data regarding the date of increase or decrease in the number of units of social studies required for admission to college

Classification	Total number of increases since 1899	Number of increases in column 2 made since 1924	Percentage that column 3 is of column 2	Total number of decreases since 1899	Number of decreases in column 5 made since 1924	Percentage that column 6 is of column 5
1	2	3	4	5	6	7
Enrollment:						
300 and fewer.....	14	7	50	7	4	57
301 to 500.....	10	7	70	8	5	63
501 to 1,000.....	5	3	60	10	2	20
1,001 to 2,000.....	13	4	30	33	15	45
2,001 to 3,500.....	13	12	96	3		
3,501 and more.....	7	2	29	1	1	100
Region:						
New England.....	4					
Middle Atlantic.....	9	6	66	7	6	86
South.....	21	12	57	13	3	23
Middle West.....	21	12	57	37	15	41
West.....	7	5	71	5	3	60
Type:						
Public—						
Colleges and universities.....	24	10	42	30	10	33
Teachers colleges and normal schools.....	12	4	33	2	1	50
Private—						
Colleges and universities.....	26	21	81	30	16	53
Total.....	62	35	56	62	27	44

It is clear from the data in Table 10 that the general upward trend since 1899 in the requirement in the social studies (apparent in Fig. 3) has been continued since 1924.

Natural science.—The data concerning the entrance requirements in natural science are not varied enough to deserve detailed representation in tables and figures. The average present and average previous requirements are almost exactly the same; that is, one unit. The approximate equality of these averages seems to indicate that during the past 30 years the entrance requirements in natural science have undergone very little change. Furthermore, no special trend

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is discernible in the changes made since 1924. As would be expected, the highest average requirement is found in the science department. No significant differences or trends occur among any of the 11 other departments for which data are being presented in this discussion.

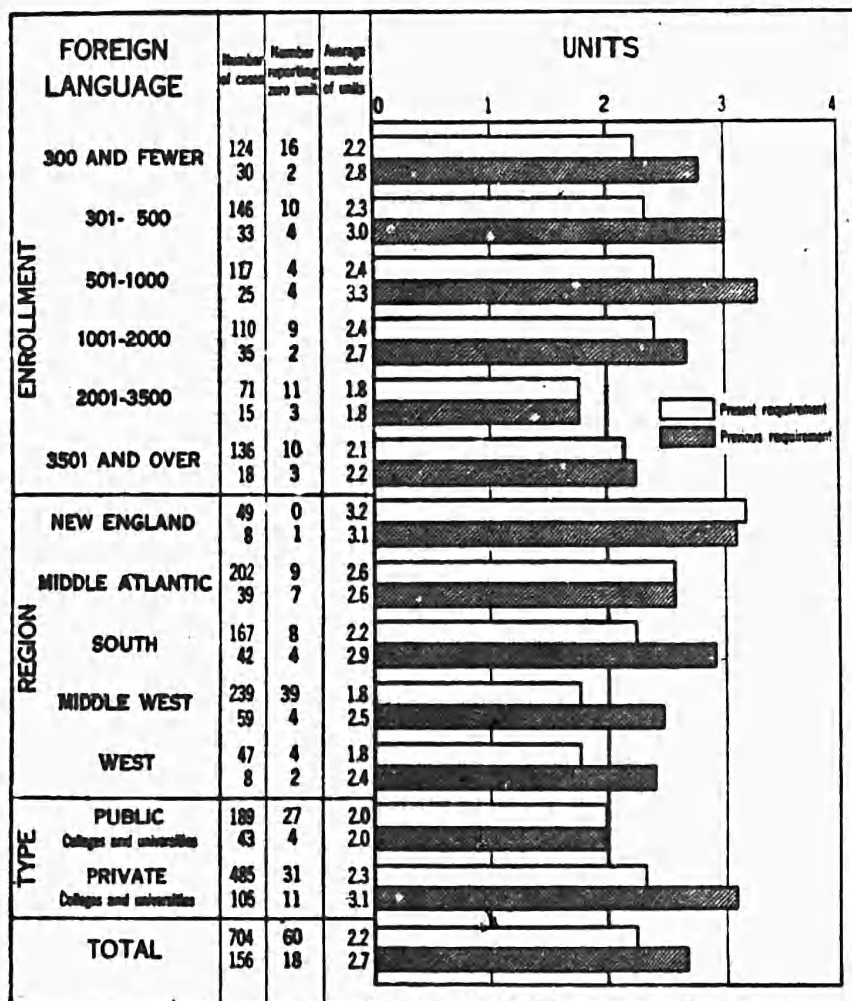


FIGURE 4.—Average number of units of foreign language required for college entrance at present and number required prior to the present standard

Foreign language.—The last subject field to be discussed in presenting the data respecting the subjects required for admission to higher institutions is foreign language. Several interesting differences occur among the data by groups.

Data by groups.—In Figure 4, data for public teachers colleges and normal schools are not included because of the

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exceedingly small number of instances in which either the present or previous requirements were reported. This absence of data indicates that in most of the teacher-training institutions no foreign-language entrance requirements are maintained.

The data in Figure 4 are varied and interesting. A few facts deserve to be pointed out in a brief list.

(1) Among all the groups in Figure 4, only in New England is the average present requirement in foreign language higher than the average previous requirement.

(2) The smaller institutions (fewer than 1,001) have reduced their requirements more than the larger (more than 2,000), although their present requirements are still higher than those for the larger institutions.

(3) The greatest differences in present requirements exist among the five regions. The requirements range from 1.8 units in the Middle West and West to 3.2 units in New England.

(4) The private institutions have lowered their requirements in foreign language more than have the public, although their present requirements are still higher than those for public institutions.

(5) The present requirement in foreign language is affected much more by the region in which the institutions are located than by either the size or type of institution.

(6) Thirty-nine of the 60 cases in which the present requirement is reported as zero are in the Middle West region.

(7) The trend in the number of units of foreign language required for college entrance has been definitely downward, due mainly to reductions in institutions having fewer than 1,001 students enrolled, in private colleges and universities, and in the South, Middle West, and West. This does not mean that the present requirements in these groups are noticeably low. In some instances this is the case; in others, not. In New England the general downward trend has been withstood, even slightly reversed.

Data by departments.—Data concerning the average present and previous requirements in foreign language in 12 departments are given in Table 11.

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TABLE 11.—Average number of entrance units of foreign language required at present and required previously for 12 departments

Department	Present				Previous			
	Number of cases	Average	Range	No requirement	Number of cases	Average	Range	No requirement
1	2	3	4	5	6	7	8	9
Liberal arts.....	291	2.4	0-6.5	31	89	3.2	0-6.5	6
Science.....	67	2.2	0-6	2	8	3.3	2-5	
Engineering.....	46	2.1	0-4	6	14	2.3	0-5	2
Business administration.....	41	2.1	0-4	1	6	2.5	0-4	1
Commerce and finance.....	24	1.2	0-2	2	4	1.5	0-2	1
Music.....	46	2.1	0-5	4	7	2.1	0-4	1
Architecture.....	16	1.9	0-4	2	4	1.5	0-2	1
Education.....	51	2.1	0-6	4	9	1.2	0-2	4
Agriculture.....	9	1.6	0-3	2	2	2.0	2	
Journalism.....	18	2.0	0-4	1	2	2.0	2	
Physical education.....	15	1.9	0-3	1	2	1.5	1-2	
Home economics.....	10	2.1	2-3					

It is not necessary to discuss the data in Table 11. Similarities and differences can be discerned readily.

Year of change.—The data in Table 12 reveal the trends among the classifications of this study in the entrance requirements in foreign language.

TABLE 12.—Data regarding the date of increase or decrease in the number of units of foreign language required for admission to college

Classification	Total number of increases since 1899	Number of increases in column 2 made since 1924	Percentage that column 3 is of column 2	Total number of decreases since 1899	Number of decreases in column 5 made since 1924	Percentage that column 6 is of column 5
1	2	3	4	5	6	7
Enrollment:						
300 and fewer.....	6	5	83	23	15	65
301 to 500.....	6	4	66	25	14	56
501 to 1,000.....	7	5	71	17	9	53
1,001 to 2,000.....	4	3	75	20	9	45
2,001 to 3,500.....	3	3	100	12		
3,501 and over.....	2	1	50	15	3	20
Region:						
New England.....	3	2	66	5	2	40
Middle Atlantic.....	14	13	93	24	11	46
South.....	5	4	80	27	13	48
Middle West.....	4	1	25	51	20	39
West.....	2	1	50	5	4	80
Type:						
Public—						
Colleges and universities.....	4	3	75	29	5	17
Private—						
Colleges and universities.....	20	16	80	81	45	55
Total.....	28	21	75	112	80	45

¹ Data for 2 groups of private institutions, namely, teachers colleges and normal schools, and miscellaneous private institutions, are omitted because of the small number of institutions included.

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In the light of the data contained in Table 12, the following facts are considered significant:

(1) Almost all the increases since 1899 in the entrance requirements in foreign language have been made by private colleges and universities.

(2) More than half of the reported increases since 1924 have been made in the Middle Atlantic region.

(3) Four times as many decreases as increases have been made since 1899. Twice as many decreases as increases have been made since 1924.

(4) The Middle West region is outstanding in the excess of the number of decreases since 1899 and since 1924 over the number of increases.

(5) Only 10 of the 112 decreases since 1899 were made prior to 1915. The old classical standard, therefore, has only of late begun to pass. During the 10-year period following 1914, 52 decreases were made, and in the period from 1925 to 1930, inclusive, 50 decreases are reported. It seems clear that the reaction against the classical standard has lost none of its momentum, although the number of reported increases since 1924 indicates that a counterreaction has begun which will probably fix the average requirement in foreign language among the institutions which retain such requirements at about two units.

Summary and comparisons.—In summarizing the data regarding entrance requirements in the five subject fields treated in the foregoing pages, it will be clearer and easier to present a few summary figures and tables than to enter into an extended discussion of the general findings. Figure 5 draws together the summary evidence concerning the average present and previous requirements in each of the subject fields studied.

It is clear in Figure 5 that in three of the subject fields, namely, mathematics, social studies, and natural science, no great differences occur between the present and previous requirements. In the field of English a definite increase has taken place. In foreign language a decrease as definite and as large as the increase in English has occurred. It should be remembered that within certain groups included

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in this study noteworthy departures from the general findings are not uncommon.

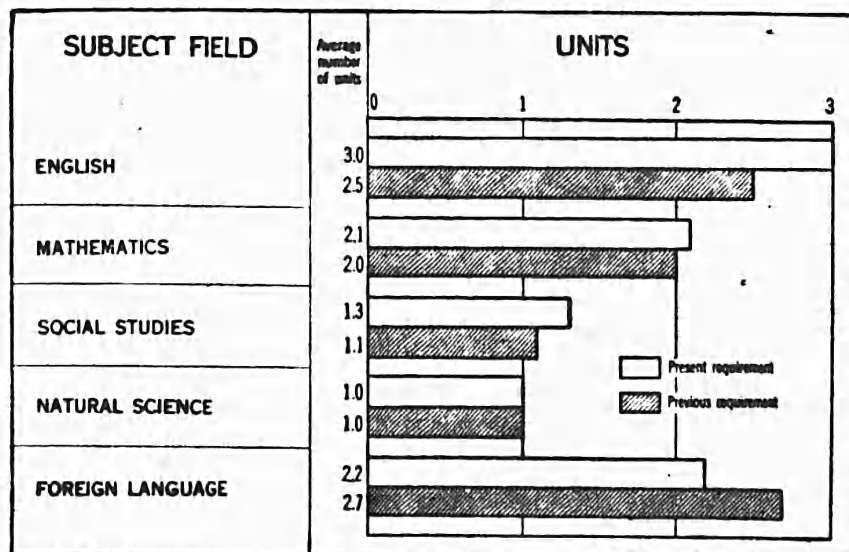


FIGURE 5.—Average number of units in five subject-fields required for college entrance at present and number required prior to present standard

In Table 13 the requirements among 12 departments in each of the five subject fields are summarized. The average total requirements in units are also indicated.

TABLE 13.—Average number of entrance units required at present in five subject fields by 12 different departments

Department	English	Mathematics	Social studies	Natural science	Foreign language	Average total units required
1	2	3	4	5	6	7
Liberal arts	3.0	2.1	1.2	1.0	2.4	9.95
Science	3.0	2.3	1.3	1.3	2.2	10.25
Engineering	3.0	2.9	1.1	1.1	2.1	10.32
Business administration	3.0	1.9	1.3	1.1	2.1	9.51
Commerce and finance	3.0	1.9	1.2	1.0	1.2	8.40
Music	3.0	1.8	1.3	1.0	2.1	9.18
Architecture	3.0	2.5	1.1	1.0	1.9	9.41
Education	3.0	1.7	1.5	1.2	2.1	9.62
Agriculture	3.0	1.8	1.1	1.0	1.6	8.61
Journalism	2.8	2.0	1.4	1.0	2.0	9.35
Physical education	3.0	1.8	1.3	1.0	1.9	9.00
Home economics	3.0	1.8	1.2	1.0	2.1	9.08

The most pronounced variations in Table 13 are found in the data for mathematics and foreign language. The six

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ranking departments, when the total number of prescribed units is considered, are engineering, science, liberal arts, education, business administration, and architecture. The lowest total requirement, 8.4 units in the commerce and finance department, is almost 2 units below the highest total requirement, 10.32 units, in the engineering department. The data in the table seem to indicate that individual departments in higher institutions take considerable initiative in setting up their own entrance standards, and are not necessarily guided by the requirements in the liberal arts department.

Even greater variations in standards than are found among the 12 departments appear when the data are grouped according to the character of the institutions from which the data were gathered. These classifications include six enrollment groups, five regions, and three types of institutions. The summarized data for these groups are presented in Table 14.

TABLE 14.—Average number of entrance units required at present in five subject fields for the different classifications included in this study

Classification	English	Mathematics	Social studies	Natural science	Foreign language	Average total units required
1	2	3	4	5	6	7
Enrollment:						
300 and fewer.....	3.0	2.1	1.3	1.1	2.2	9.7
301 to 500.....	3.1	2.0	1.3	1.2	2.3	9.9
501 to 1,000.....	3.1	2.1	1.3	1.1	2.4	10.0
1,001 to 2,000.....	3.0	2.1	1.3	1.0	2.4	9.8
2,001 to 3,500.....	2.9	2.2	1.3	1.0	1.8	9.2
3,501 and more.....	2.8	2.0	1.1	1.1	2.1	9.1
Region:						
New England.....	3.1	2.4	1.0	1.0	3.2	10.7
Middle Atlantic.....	3.1	2.2	1.2	1.2	2.6	10.3
South.....	3.1	2.4	1.5	1.0	2.2	10.2
Middle West.....	2.8	1.8	1.2	1.0	1.8	8.6
West.....	2.8	1.8	1.3	1.3	1.8	9.0
Type:						
Public—						
Colleges and universities.....	2.9	2.0	1.2	1.0	2.0	9.1
Teachers colleges and normal schools.....	3.2	1.7	1.7	1.2	.....	17.8
Private—						
Colleges and universities.....	3.0	2.2	1.3	1.1	2.3	9.9
Total.....	3.0	2.1	1.3	1.1	2.2	9.7

¹ Scarcely any teachers colleges and normal schools report foreign-language requirements.

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Several observations may be made concerning the data in Table 14. A few of them are listed here:

(1) In general, among the enrollment groups, the requirements in each subject field tend to decrease among the institutions having enrollments of more than 2,000.

(2) The average total requirement among the institutions in the Middle West is more than two units less than the average requirement in New England. This difference is due mainly to unequal requirements in mathematics and foreign language.

(3) Private institutions, on the average, prescribe nearly one more unit of subjects for entrance than the public institutions.

(4) A greater range of subject matter is possible in the secondary schools of the Middle West and West, because fewer college-entrance units are prescribed than in the other three regions.

The last summary table to be presented here, Table 15, has to do with the trends in the requirements in the five subject fields, as revealed by the date of increase or decrease.

TABLE 15.—Trends in entrance requirements in five subject fields, as revealed by the date of increase or decrease

Subject field	Total number of increases since 1899	Number of increases in column 2 made since 1924	Percentage that column 3 is of column 2	Total number of decreases since 1899	Number of decreases in column 5 made since 1924	Percentage that column 6 is of column 5
1	2	3	4	5	6	7
English.....	74	40	54	33	21	64
Mathematics.....	65	39	60	122	75	61
Social studies.....	62	35	56	62	27	44
Natural science.....	53	30	57	83	46	43
Foreign language.....	28	21	75	112	50	45
Total for 5 subject fields..	282	165	58	412	209	51

As is indicated in this table, the total number of increases since 1899 exceeds the total decreases since the same date in only one subject field, namely, English. In the social studies the frequencies are equal. In the three other subject fields the decreases since 1899 exceed the increases. This is especially outstanding for foreign language and mathematics. When consideration is given to the number of increases and

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decreases made since 1924, the increases are again in excess of the decreases in the English and social science subject fields. In mathematics, natural science, and foreign language, the number of decreases since 1924 is in excess of the number of increases since the same date. This is especially true for mathematics and foreign language. On the basis of the data presented in Table 15, it seems correct to say, therefore, that since 1924 the unit requirements in English and social science have tended to rise, more perceptibly in the former than in the latter; the requirements in natural science have remained practically unchanged; and a definite downward trend is discernible in the requirements in mathematics and foreign language. Furthermore, when the totals in Table 15 are considered, it appears that, on the whole, the number of entrance units prescribed in five subject fields by higher institutions is on the decrease.

Lest the conclusions just stated should seem to conflict with the data presented in Figure 5, it should be remembered that those data include all changes made since 1899, whereas the foregoing statement of trends is based on changes made since 1924.

Related studies.—Many studies have been made respecting the entrance requirements institutions have maintained relative to units of specified subject matter. Some of these studies have attempted to evaluate these requirements. In some cases the predictive value of individual subjects has been examined. In a few cases the comparative value of various patterns of subjects as indicators of success in college has been studied. The findings of some of these studies have given rise to the questioning of the validity and wisdom of requiring certain subjects for entrance and discriminating against others as unsatisfactory for credit toward admission. For example, F. W. Reeves and J. D. Russell made a study specifically "to discover from objective data whether or not any valid basis exists for prescription of certain subjects and discrimination against other subjects in requirements for college entrance."¹⁰ The complete high-school and univer-

¹⁰ Reeves, F. W., and Russell, J. D. The Type of High-School Curriculum Which Gives the Best Preparation for College. Bulletin of the Bureau of School Service, Vol. II, No. 1, September, 1922, University of Kentucky, Lexington, Ky. 106 pp.

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sity records of 706 graduates from three universities were examined. One of the six general conclusions of this study is as follows:

This study does not find sufficient facts to justify colleges in prescribing certain subjects for college admission. However, the facts found do warrant colleges in demanding a high-school curriculum well done.

On the basis of the records of 605 students entering Leland Stanford University, W. M. Proctor and L. Bolenbaugh¹¹ conclude that "not enough difference exists between the achievement of the academic-pattern group and the vocational-pattern group of the Stanford men . . . to justify any discrimination against an applicant for college admission because he took from 15 to 50 per cent of his preparatory subjects in the vocational group of high-school subjects." Again, "Colleges can well afford to give high schools more freedom in the matter of courses taken by prospective college students." In a study involving the high-school and university records of more than 3,000 students in the University of Washington, Brammell¹² concludes, among other things, that "the subsequent university records of the students presenting five or more units of nonacademic high-school subjects for entrance and of the students presenting not more than one such unit for entrance are too nearly equal to justify any discrimination against the former group of students. An examination of the predictive value of the academic high-school subjects by the partial correlation method shows that the generally supposed high predictive value of those subjects has been overestimated."

Equally as significant as studies like the foregoing in this field are other studies which have investigated the value of the high-school record in certain subjects in predicting success in the same field in college. Conclusions vary; but here again enough evidence has been produced to shake the traditional confidence many persons have had in the special merits of certain subjects. Numerous investigators have

¹¹ Proctor, W. M., and Bolenbaugh, Lawrence. Relation of the Subjects Taken in High School to Success in College. *Journal of Educational Research*, 15:87-92, February, 1927.

¹² Brammell, Paris Roy. A Scientific Study of Entrance Requirements in the University of Washington. Doctor's thesis, June, 1930. University of Washington, Seattle, Wash.

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discovered that work done in a certain field in high school does not improve the chances for success in the same field in college. If this is true, it becomes increasingly absurd for higher institutions to prescribe a certain number of units in specific subjects as entrance requirements on what can be nothing more than "general principles." It may be that in certain fields of study in college, work done in certain fields in the high school does bear a relationship to success. The relationship between high-school mathematics and college engineering is a case in point. However, in general, it seems to be time to question the practice of prescribing relentlessly the subjects to be offered for admission to college. Some institutions, feeling the need for a change of emphasis, are giving more attention to the personal traits of students, and have become less concerned about what subjects a student took in high school than how he rated in what he did take.

4. SUBJECTS ACCEPTED FOR ADMISSION

Considerable care has been taken in presenting a rather detailed analysis of the methods of admission employed by higher institutions and the subjects required for entrance. A less detailed presentation is necessary in discussing the maximum number of units which will be accepted in separate subjects or subject fields. Furthermore, the data concerning the maximum number of units accepted are fewer and probably less dependable than those for the foregoing sections in the present chapter. The establishment of a minimum rather than a maximum limitation seems to be the general practice. An indication of the trends since 1924 is considered more important to this discussion than a detailed analysis of data.

Eighteen subjects were listed in the inquiry form for which information regarding the number of units accepted was to be supplied. These subjects are listed below. After each subject, in parentheses, appears a plus, a minus, or an equals sign. If the sign is plus (+), it should be interpreted to mean that among the institutions which report changes since 1924 in the maximum number of units allowed, more report an increased than a decreased maximum. If a minus sign (-) appears, more institutions report decreased than in-

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creased maximums since 1924. If the sign is equals (=), an equal number of institutions report increases and decreases since 1924. The list of subjects follows:

English (+)	Manual training (-)
Mathematics (+)	Music (+)
Community civics (-)	Art (-)
Social studies (+)	Vocational agriculture (-)
General science (-)	Mechanic arts (-)
Laboratory science (-)	Normal training subjects (-)
Foreign language (-)	Bible (+)
Commercial subjects (-)	Applied English (-)
Home economics (=)	Physical education (+)

The majority in the number of decreased over increased maximums since 1924 is especially noticeable in the case of community civics, general science, foreign language, and vocational agriculture. Some of these decreases are no doubt due to the influence of the junior high school on entrance requirements. The excess of increased over decreased maximums since 1924 is outstanding for music and Bible. Only 10 per cent of the 184 public institutions included in this study report increased maximums since 1924 in some one or more of the 18 subjects listed, whereas 23 per cent of the 327 private institutions report increases.

In many institutions, instead of fixing the maximum number of units which will be accepted in individual subjects, maximums are sometimes established for certain groups of subjects. These subjects are usually in the commercial, industrial, or vocational fields. In recognition of this practice, special effort was made to determine for this type of subject group whether or not more institutions are increasing than are decreasing the maximum allowance of units. Only the changes which have been made since 1924 are considered here. In all, 25 institutions report that since 1924 the maximum number of units which will be accepted from the commercial-industrial-vocational group of subjects has been increased. Twenty-four institutions report decreases in the maximums since the same date. The tendency to increase is notable especially in the institutions having enrollments of fewer than 500 students and among the private colleges and universities. The tendency to decrease the

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maximum is prominent in the institutions having more than 2,000 students enrolled, in the Middle West region, and among the public institutions.

Space was provided in the original inquiry form in which the respondents were requested to write in the names of any subjects which had been "added since 1925 to the list of subjects accepted for college entrance." The list is an interesting one, and demonstrates, in the main, that some of the higher institutions are still capable, or are perhaps increasingly capable, of extending the list of accepted subjects to a surprising length. Thirty-four subjects were listed, as follows: Health, military training, public speaking, mechanical drawing, hygiene and home nursing, music, physical geography, botany, chemistry, physics, physiology, drawing, psychology, fine arts, economics, sociology, dramatics, trigonometry, agriculture, commercial law, stenography and typing, expression, journalism, vocational guidance, general or world geography, general mathematics, advanced science, commercial subjects (except shorthand, typing, spelling, and penmanship), salesmanship, reviews, Bible, scouting, biology, and occupations.

5. THE JUNIOR HIGH SCHOOL AND COLLEGE ADMISSION

The last item to be discussed under the general theme of admission to college is the extent to which the higher institutions recognize the junior high school reorganization in formulating their entrance criteria. The respondents were asked to specify whether or not their institutions, in recognition of the junior high school reorganization, admitted students to full freshman standing on the basis of 11 or 12 acceptable units of work earned in the tenth, eleventh, and twelfth grades, or, in the case of States having 7-year elementary school systems, in the ninth, tenth, and eleventh grades. The percentages of institutions which answered "Yes" or "No" and the percentages which made no reply are presented in Table 16.

Approximately a third of all the 517 institutions included in this study state that, in recognition of the junior high school, appropriate adjustments are made in the number and nature of units which students may submit for entrance credit.

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TABLE 16.—Percentages of institutions which do or do not, in recognition of the junior high school reorganization, admit students on the basis of work done during the last three years of high school

Classification	Number of institutions	Percentage answering "Yes"	Percentage answering "No"	Percentage not reporting
1	2	3	4	5
Enrollment:				
300 and fewer.....	128	30	36	34
301 to 500.....	138	35	36	29
501 to 1,000.....	109	31	42	27
1,001 to 2,000.....	78	31	40	29
2,001 to 3,500.....	25	36	56	8
3,501 and more.....	39	30	62	8
Region:				
New England.....	51	16	51	33
Middle Atlantic.....	109	30	37	33
South.....	118	26	46	28
Middle West.....	180	38	40	22
West.....	59	42	30	28
Type:				
Public—				
Colleges and universities.....	70	34	41	25
Teachers colleges and normal schools.....	114	28	39	33
Private—				
Colleges and universities.....	313	32	42	26
Total.....	517	32	41	27

¹ Data for 2 groups of private institutions, namely, teachers colleges and normal schools, and miscellaneous private institutions, are omitted because of the small number of institutions included.

The data in Table 16 indicate that neither the size nor type of institution exerts much influence in determining whether or not recognition by way of altered entrance standards will be given the junior high school reorganization. However, the region in which the institutions are situated plays a much greater part. The Middle West and West regions are clearly ahead in the extent to which they recognize the junior high school reorganization.

If an institution specified that in formulating its entrance standards the junior high school was recognized, it was then asked to state whether or not certain subjects normally taken in the first year of high school were required to be omitted from the 11 or 12 units declared to be acceptable for entrance. The returns to this inquiry are indicated in Table 17.

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TABLE 17.—Percentages of institutions reporting recognition of the junior high school which do or do not require that certain subjects normally taken in the first year of high school shall be omitted from the 11 or 12 units declared acceptable for entrance

Classification	Number of institutions	Percentage answering "Yes"	Percentage answering "No"
1	2	3	4
Enrollment:			
300 and fewer.....	88	37	63
301 to 500.....	48	48	52
501 to 1,000.....	34	21	79
1,001 to 2,000.....	24	42	58
2,001 to 3,500.....	9	30	70
3,501 and more.....	11	46	54
Region:			
New England.....	8	25	75
Middle Atlantic.....	33	48	52
South.....	30	43	57
Middle West.....	68	34	66
West.....	25	32	68
Type:			
Public—			
Colleges and universities.....	24	42	58
Teachers colleges and normal schools.....	32	28	72
Private—			
Colleges and universities.....	100	39	61
Total.....	164	38	62

¹ Data for 2 groups of private institutions, namely, teachers colleges and normal schools, and miscellaneous private institutions, are omitted because of the small number of institutions included.

From the replies to this inquiry it appears that only a little more than a third of the 164 institutions which recognize the junior high school reorganization to the extent of reducing the number of required entrance units make a careful check to determine whether or not the remaining 11 or 12 units represent work done in advance of the junior high school level.

The 62 institutions which indicated that if 11 or 12 senior high school units are to be accepted certain ninth-grade subjects will be discriminated against, named 19 subjects which are thus declared unacceptable. These subjects, accompanied by the number of higher institutions which declared them unacceptable, are as follows: First-year English (24); beginning mathematics, primarily beginning algebra (24); general science (10); general history (6); "languages" (5); Latin (2); spelling (2); ancient history (2);

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community civics (2); physiology (1); botany (1); political geography (1); physical education (1); manual arts (1); civics (1); geography (1); industrial geography (1); business arithmetic (1); and bookkeeping (1).

The recency with which the junior high school reorganization has been recognized by the higher institutions in the revision of their entrance standards is apparent in the fact that of 105 institutions reporting dates, 98 specify that the date of such recognition was subsequent to 1925.

CHAPTER III : MEANS OF ADAPTATION SUBSEQUENT TO ADMISSION

1. ITEMS GIVEN SPECIAL ATTENTION IN APPRAISING FRESHMAN STUDENTS

The general feeling that effective articulation of high school and college has to do with more than the establishment of regulations with which students must comply in order to gain entrance to higher institutions is becoming more and more prevalent. Indeed, the most challenging and democratic activity in which the colleges can engage in this regard is a genuine effort to turn their already accepted student timber into improved products. In other words, the general task of trying to find out what the higher institutions are doing in order to adapt their freshman students to the college life and work was considered from the beginning an important part of this study. Chapter II dealt entirely with a study of the practices and trends among the institutions in getting students admitted. The investigation turns in this chapter to a study of how the institutions set about to adjust the students to their new situation, once they have been admitted. This inquiry will include such topics as the items given special attention in appraising freshman students, tests administered and the uses made of them, bases upon which class sectionings are made, modification of freshman courses, problems relating to the elimination of freshmen, means employed to adjust freshmen and to reduce scholastic mortality, and other topics related to the general problem of adjustment.

Almost without exception, higher institutions gather a great deal of data concerning the students who come to them. Much of this information is not a deciding factor in determining whether or not a student will be admitted, but is placed on record to be used in making a general appraisal of the student and to assist in dealing with him intelligently during his college career. A study has been made among the institutions to see which items are considered most important in setting up a correct estimate of the entering student. The results of this inquiry are presented in Table 18.

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TABLE 18.—Numbers of institutions checking certain items as receiving special attention in the appraisal of freshman students; also rank of each item in individual groups as compared with rank for all institutions combined

Classification	Health	Type of secondary school	Rank in graduating class	Character rating	Results of interviews	Recommendations	Rank on intelligence test	Social background	Religious denomination	Athletic prowess
1	2	3	4	5	6	7	8	9	10	11
Enrollment:										
300 and fewer (128)—										
Number.....	70	62	52	61	69	60	45	35	11	8
Rank.....	1	3	6	4	2	5	7	8	9	10
301 to 500 (138)—										
Number.....	79	82	80	73	70	73	56	32	5	6
Rank.....	3	1	2	4	6	5	17	8	10	9
501 to 1,000 (109)—										
Number.....	61	57	56	64	51	50	49	21	11	10
Rank.....	2	3	4	1	5	6	7	8	9	10
1,001 to 2,000 (78)—										
Number.....	36	37	39	23	30	30	27	11	3	3
Rank.....	3	2	1	7	4	5	6	8	9	10
2,001 to 3,500 (25)—										
Number.....	14	15	12	8	6	10	15	3		
Rank.....	3	1	4	6	7	5	2	8		
3,501 and more (33)—										
Number.....	18	20	17	11	13	14	19	6	1	
Rank.....	3	1	4	7	6	5	2	8	9	
Region:										
New England (50)—										
Number.....	37	23	30	34	25	26	23	12	1	2
Rank.....	1	6	3	2	5	4	7	8	10	9
Middle Atlantic (104)—										
Number.....	71	66	64	61	60	58	46	32	9	6
Rank.....	1	2	3	4	5	6	7	8	9	10
South (119)—										
Number.....	55	63	37	42	40	44	40	21	6	4
Rank.....	2	1	7	4	5	3	6	8	9	10
Middle West (179)—										
Number.....	88	94	95	84	89	84	77	34	12	12
Rank.....	4	2	1	6	3	5	7	8	9	10
West (50)—										
Number.....	27	27	30	19	25	25	25	9	3	3
Rank.....	2	3	1	7	4	5	6	8	9	10
Type:										
Public—										
Colleges and universities (70)—										
Number.....	29	30	28	20	20	23	28	6		
Rank.....	2	1	3	6	7	5	4	8		
Teachers colleges and normal schools (114)—										
Number.....	64	45	31	40	33	33	47	17	4	7
Rank.....	1	3	7	4	5	6	2	8	10	9
Private—										
Colleges and universities (307)—										
Number.....	172	191	191	168	175	169	129	76	25	18
Rank.....	4	1	2	5	3	5	7	8	9	10
Total (511)—										
Number.....	278	273	256	240	239	239	211	108	31	27
Rank.....	1	2	3	4	5	6	7	8	9	10

¹ Data for 2 groups of private institutions, namely, teachers colleges and normal schools, and miscellaneous private institutions, are omitted because of the small number of institutions included.

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In addition to the 10 items listed in Table 18, 11 other items were checked by the respondents. None of these, however, received a total number of checks in excess of 12. The additional items, in the order of the frequency with which they were checked, are as follows: (1) Rank of student on an achievement test, (2) record of student in each high-school subject, (3) results on a standard English test, (4) leadership shown in high-school student activities, (5) purposes of student, (6) response to college life and work, (7) personality traits, (8) hobbies or special intellectual interests, (9) transcript of credit, (10) results on personnel tests, and (11) subjects taken in high school.

Many comparisons can be made among the data in Table 18. For example, the item concerning the rank of the students on an intelligence test ranks second among the institutions having more than 2,000 students enrolled, although for all institutions combined this item ranks seventh. No such variation in rank occurs for this item among the regions, whereas when type of institution is concerned it ranks higher among the public than among the private institutions. It appears, therefore, that the extent to which intelligence tests are considered important in appraising freshman students is influenced mostly by the size of the institution. Noticeable differences occur among other items also. It is somewhat surprising to find that "Religious denomination of students" and "Athletic prowess of students" rank ninth and tenth, respectively, in the entire list of 21 items. These items were checked primarily by private colleges and universities having fewer than 1,000 students enrolled.

The percentages of all the institutions which employ each item listed in Table 18 were computed, but are not presented in the table. These percentages, especially for the first seven items, are comparatively high; that is to say, the numbers of institutions which give special attention to these items is encouragingly large. The percentage for the seven items referred to are as follows: Health, 54; type of secondary school, 53; rank in graduating class, 50; character rating, 47; results of interviews, 46; recommendations, 46; rank in intelligence test, 41.

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Other facts could be drawn from the data in Table 18. In summary, however, it appears that large numbers of higher institutions, instead of allowing newly admitted students to "sink or swim," are attempting to understand them in order that effective assistance may be rendered in adjusting them to the college situation. At least, a great deal of information about entering students is being assembled.

2. TESTS ADMINISTERED TO NEWLY ADMITTED FRESHMAN STUDENTS

Extent of testing.—Higher institutions do not depend on the secondary schools to supply all the information desired concerning entering students, although a large part of it must come from that source. Considerable initiative is taken in gathering these data first hand. Much of the desired information is secured by means of tests. In supplying the information regarding tests, the respondents were asked to indicate the tests which were administered to all or a part of the freshmen *who had been admitted*, in order to aid in adjusting them to the college situation. The returns to this inquiry are summarized in Table 19.

It should be said at the outset that several types of tests were listed under each of the last six named in Table 19. Ten types of English tests were named, as follows: General English, English literature, English composition, grammar, reading, literary background, vocabulary, rhetoric, spelling, and speech. Under mathematics four types of tests were listed, namely, general mathematics, algebra, geometry, and arithmetic. Thirteen types of tests in the social studies were named, as follows: General social science, United States history, geography, world history, European and American history, economics, ancient history, European history, current events, Bible, education, psychology, and philosophy. Five tests in science were listed as follows: General science, chemistry, physics, biology, and all sciences. Seven tests in foreign language were listed, namely, French, Latin, Spanish, German, Italian, Greek, and "general." Seventeen other miscellaneous tests were named, as follows: Health and physical education, mechanical, music, personality, social intelligence, handwriting, engineering, perseverance, vocational interest, commercial, will, leadership in teaching, emotion,

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vocational aptitude, social aptitude, art, and personal history. The data in Table 19, therefore, are summary data for the several tests occurring under each test listed in the table, with the exception of the first three named, for which no subordinate grouping occurs. The three ranking tests among the English tests are general English (252 institutions), English composition (80), and English literature (27). In mathematics the three ranking tests are general mathematics (85), algebra (37), and arithmetic (19). In social science they are United States history (28), general social science (17), and geography (10). In science they are chemistry (45), physics (19), and general science (16). In foreign language they are French (61), Latin (25), and German (19). Among the "other" tests the three highest are vocational interest (10), music (9), and personality (8).

TABLE 19.—Percentages of higher institutions administering various tests to freshman students already admitted

Classification	General intelligence	College aptitude	General achievement	English	Mathematics	Social studies	Science	Foreign language	Others
	1	2	3	4	5	6	7	8	9
Enrollment:									
300 and fewer (128).....	62	6	9	42	16	10	9	9	2
301 to 500 (138).....	65	13	7	62	21	10	10	15	8
501 to 1,000 (109).....	68	7	7	59	23	12	10	11	9
1,000 to 2,000 (78).....	63	13	9	60	31	3	15	15	9
2,001 to 3,500 (25).....	76	24	8	71	36	8	12	12	16
3,501 and more (33).....	55	24	6	67	48	15	27	18	15
Region:									
New England (50).....	56	14	12	32	26	12	14	8	2
Middle Atlantic (104).....	74	6	11	61	40	18	21	26	10
South (119).....	66	8	4	54	17	4	3	11	3
Middle West (179).....	65	14	6	60	21	8	13	9	10
West (59).....	47	24	14	66	20	7	8	8	12
Type:									
Public—									
Colleges and universities (70).....	64	20	9	61	36	6	19	11	13
Teachers colleges and normal schools (114).....	70	7	18	62	29	15	4	1	10
Private—									
Colleges and universities (307).....	62	12	4	55	20	9	14	16	6
Total (511).....	64	11	8	57	24	9	12	13	8

¹ Data for 2 groups of private institutions, namely, teachers colleges and normal schools, and miscellaneous private institutions, are omitted because of the small number of institutions included.

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It is clear from the percentages in Table 19 that two tests are outstanding in the extent to which they are administered by the higher institutions to the freshman students. These are the general intelligence and the English tests. It is interesting to study at this point the data for the intelligence test in Table 19 as compared with the data for the same test in Tables 2 and 3 in Chapter II. Whereas the general intelligence test is administered by 64 per cent of all the institutions as a post-admission test, it is employed as a single method of college entrance by only 2 per cent of all the institutions, and as a method used in combination with other methods by only 18 per cent of all the institutions. It is clear, therefore, that the higher institutions are using this test much more as a means of placement and adjustment (and perhaps appraisal) subsequent to admission than as an admission criterion. The differences among the groups in Table 19 in the extent to which separate tests are administered are discernible at a glance. There are indications in the table that the public colleges and universities, and the larger institutions more than any others, have pioneered in the general testing field. The low percentages for the smallest enrollment group and for New England and the South indicate that the institutions in these groups are experimenting little with tests other than the most common ones. In fact, the extent to which these groups employ each of the tests is outstandingly low for all but the general intelligence test. The public institutions administer tests in general more freely than the private.

Standardization of tests, and by whom they are devised.—If tests play such an important part among higher institutions in securing data to be used in adjusting new students, then it is of genuine consequence to know whether or not the institutions take seriously the matter of the choice or creation of tests. If standardization be used as a criterion to measure the acceptability of a test, then the tests which are being used in the institutions may be said to be about the best obtainable. However, it can not be asserted that all the respondents have the same judgment as to what standardization is. Data relative to whether or not tests are standardized and locally devised are presented in Table 20.

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TABLE 20.—Extent to which various tests administered by higher institutions to freshman students are standardized and locally devised

Test	Number of institutions in which tests are administered	Number in which tests are standardized	Number in which tests are not standardized	Number in which tests are locally devised	Number in which tests are not locally devised
1	2	3	4	5	6
General intelligence.....	329	311	1	8	66
College aptitude.....	58	45	1	4	8
General achievement.....	41	32	2	3	5
English.....	290	194	25	90	37
Mathematics.....	123	72	7	44	12
Social sciences.....	49	34	3	13	6
Science.....	61	38	3	17	8
Foreign language.....	65	47	2	18	6
Others.....	40	28	5	13	9

Less than 10 per cent of the institutions administering any one test employ tests that are not standardized. About two of every three of the subject-matter tests which are administered to freshman students are devised by the institutions giving the tests. The data in Table 20 seem to indicate in general that the institutions find it more convenient to devise special subject-matter tests than either general intelligence, college aptitude, or general achievement tests.

Combinations of tests used.—Brief mention should be made of the frequency with which certain tests appear in combination in the individual institutions. Two hundred and eighty institutions administer some combination of tests. The combination used most frequently includes the general intelligence and the English tests. Sixty-three institutions reported this combination. The second ranking combination, reported by 38 institutions, includes the general intelligence, English, and mathematics tests. Although many other combinations appear, none is reported as being employed by as many as 10 institutions. In all, either a single test or a combination of tests is administered in 385 of the 517 institutions included in this study. These data indicate that tests play a very important part in the efforts of the higher institutions properly to appraise and adjust the new students.

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3. USES MADE OF DATA FROM CERTAIN TESTS

The uses of the subject-matter tests are usually restricted to subject-matter fields; consequently they are not to be considered here. On the other hand, the general intelligence and college aptitude tests are made to serve various purposes in individual institutions. These tests, especially the general intelligence test, are used by a large majority of the institutions included in this study. Data for 8 of the 16 uses for the intelligence test reported by the higher institutions which administer such a test are given in Table 21.

TABLE 21.—Percentages of higher institutions making various uses of the data secured through intelligence tests

Classification	Admission to college	Sectioning classes	Educational guidance and counseling	Vocational guidance	Awarding marks	Diagnostic purposes	Statistical studies	Adjustment of student load
1	2	3	4	5	6	7	8	9
Enrollment:								
300 and fewer (79)---	20	30	92	32	9	61	3	1
301 to 500 (90)-----	13	43	81	34	2	66	1	1
501 to 1,000 (74)-----	12	51	82	39	3	70	1	1
1,001 to 2,000 (49)-----	8	50	88	35	1	86	4	6
2,001 to 3,500 (19)-----	10	31	90	47	-----	60	5	5
3,501 and more (18)-----	55	55	94	50	-----	89	6	-----
Region:								
New England (28)-----	28	32	86	43	18	100	4	-----
Middle Atlantic (77)-----	16	40	86	31	4	70	1	-----
South (79)-----	11	43	79	32	1	62	-----	4
Middle West (117)-----	16	45	86	40	2	66	3	3
West (28)-----	18	50	100	46	4	71	4	-----
Type:								
Public—								
Colleges and universities (45)-----	7	51	89	51	-----	62	7	4
Teachers colleges and normal schools (79)-----	13	34	82	25	9	71	1	2
Private—								
Colleges and universities (191)-----	20	45	87	39	2	67	2	1
Total (329)---	16	43	86	36	4	70	2	2

¹ Data for 2 groups of private institutions, namely, teachers colleges and normal schools, and miscellaneous private institutions, are omitted because of the small number of institutions included.

In addition to the eight uses listed in Table 21, eight other uses were enumerated by the institutions, as follows: (1)

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Securing higher correlation as to predictive value in determining success in college, (2) scholarship award, (3) application for extra hours, (4) making probation list, (5) predicting scholastic possibilities and motivation to meet expected level, (6) disciplining, (7) constructing academic history, and (8) student teaching.

According to the data in Table 21, the primary uses to which the results on intelligence tests are put are four in number, namely: (1) Educational guidance and counseling, (2) diagnostic purposes, (3) sectioning classes, and (4) vocational guidance. It may be a bit surprising to some persons that even 4 per cent of the 329 institutions use these results as a basis for awarding marks to students. An examination of the four uses enumerated above shows that the results on intelligence tests are applied to problems which must be faced immediately by college authorities, once a new student has been admitted.

The four uses outstanding for the intelligence test are also outstanding for the college aptitude test. It is to be hoped (what some will be inclined to doubt) that the results in these tests are made use of as effectively as the data infer.

4. BASES ON WHICH CLASS SECTIONINGS ARE MADE IN CERTAIN SUBJECTS

One of the common means by which higher institutions attempt to adjust new students to their work is to group them into sections, usually three in number, which are intended to include students of high, average, and low ability. In this investigation it was assumed that an institution reporting no class sectioning had none. On this basis 43.5 per cent of all the institutions do not attempt class sectioning at all, whereas more than 50 per cent sectionize the students in at least one subject field. It is of considerable interest to know upon what basis such sectionings are made.

In all, sectionings were reported in 19 subject fields. A total of 13 bases for sectioning were specified. Data for five of the bases used in sectionizing students in six subject fields deserve to be presented in a brief table, as follows:

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TABLE 22.—*Extent to which five bases are used to section classes in six subject fields (292 institutions reporting)*

Basis	Subject field						Total for 19 subject fields
	English	Mathematics	History	Chemistry	Physics	Foreign languages	
1	2	3	4	5	6	7	8
Results on general intelligence test.....	39	20	11	4	7	6	107
Results on freshman test in the subject.....	191	55	8	27	8	36	332
Number of high-school units earned in the subject.....	9	49	4	49	21	62	199
Marks received in high school in the subject.....	16	17	1	8	4	17	69
Marks received during first semester or quarter in college.....	35	18	4	9	3	18	83

The eight bases listed by the institutions, but not included in Table 22, are as follows: Composite of entering tests, alphabetically by names, results on English test, curriculum selected by student, results on college board examination, high school giving course, ability rating by principal, and results on general achievement tests. None of these bases was reported in use in more than six institutions. The additional subjects are economics, sociology, political science, citizenship, psychology, education, religion, fine arts, physical education, business education, domestic science, science, and "all subjects." Very few institutions report sectionings in any of these subjects.

Class sectionings in English and mathematics are based most frequently on the results of the freshman tests in those subjects. History is the only one of the six subjects in which the results on the general intelligence test are used more frequently than any other basis in sectioning classes. In the other three subject fields, namely, chemistry, physics, and foreign languages, the basis used most frequently in sectionizing the new students is the number of high-school units earned in the subject. In five of the six subjects listed the institutions prefer to make their groupings upon the basis of their own judgments in awarding marks rather than upon the marks awarded in high school. This same tendency is borne out by the data for the complete list of 19 subjects presented in the extreme right-hand column.

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Few institutions section classes in all subject fields. In fact, of the entire 517, only 12 report that such an extensive sectioning program is in effect. Sectioning in one or more subject fields is more common among the larger institutions than in any other enrollment group, in any region, or among the institutions of a particular type. The extent of no sectioning among the very small institutions is of course due in large measure to the fact that the small number of students makes class sectionings impractical.

The seriousness with which some institutions have entered into the work of careful sectioning and the extent to which it has been made effective among the students are indicated in the following illustration:

In the State Normal School, Bellingham, Wash., the entire freshman class is grouped for the complete sequence of courses leading to student teaching. In this institution all entering freshmen are required to take a group of entrance tests composed of a college-aptitude test and seven achievement tests. The Thorndike Intelligence Examination for High-School Graduates, Part I, is the aptitude test used. The seven achievement tests have been constructed by the institution's bureau of research and are made to test ability and knowledge in the following fields: Arithmetic computation, arithmetic reasoning, English usage, spelling, geography, history, and penmanship. Letter-grade equivalents are assigned the scores made in each of these tests, except penmanship, by making use of the standard deviation of the distribution of scores made by the entering group on any particular test. In the four "critical" tests, namely, arithmetic computation, arithmetic reasoning, English usage, and spelling, a given mark must be obtained before the students are allowed to do their practice teaching. If the penmanship test is failed, a course in penmanship is required, in which a passing grade must be made before student teaching can be given. The results of these tests serve as the basis for the segregation of the entering freshmen into three groups for the sequence of courses leading to their student teaching. Their method of determining the limits of the three groups is as follows:

The F group.—All students who passed all four of the critical achievement tests plus enough students with A and B aptitude ratings who

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failed in not more than one of the four tests to make up from 36 to 40 per cent of the entire entering group.

The W group.—All students with A and B aptitude ratings who have failed in only one test and were not included in the F group. Students with C aptitude ratings who have failed in but one test. If more students are needed to complete this group, those who failed in two of the critical achievement tests but have high aptitude ratings are taken until 30 to 32 per cent of the entering group is included.

The S group.—All remaining entering students.

1. MODIFICATION OF FRESHMAN COURSES

It has been the testimony of many freshman students experiencing scholastic difficulties that the materials presented in class by the professors presuppose a rather intimate acquaintance with, if not technical knowledge in, specific subject fields. Little notice seems to be taken of the fact that many college freshmen take up a group of entirely new studies upon entering a higher institution. They, therefore, need an extended orientation at the beginning of a course; in fact, perhaps the entire course needs to be presented to them in a way different from the way in which it is presented to students who had previous work along that line. Too often in the past instructors in freshman subjects have assumed the "sink-or-swim" attitude, much to the discouragement of students, many of whom, with proper orientation and guidance, would turn failure into at least passing success.

This study has inquired into the extent to which higher institutions modify the work in certain freshman courses for the students who have and who have not had previous high-school training in those courses. Thirty-five courses were listed by the institutions as being modified to suit the previous training of the beginning student. The percentages of the institutions included in this study which make such modification in 12 subjects are presented in Table 23.

The data in Table 23 show in general that the higher institutions have not gone very far in differentiating freshman instruction. More progress has been made along this line in the field of chemistry than in any other subject-matter field. Yet even in this field less than a third of the institutions included in this study take adjustive cognizance of previous training, or the lack of it, in presenting freshman subject matter.

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TABLE 23.—Percentages of institutions reporting modification of work in 12 subjects for freshmen who have and who have not had previous training in the subject

Classification	Chem- istry	French	German	Latin	Spanish	College algebra	English	Physics	Trig- onom- etry	Biology	Solid geom- etry	History
1	2	3	4	5	6	7	8	9	10	11	12	13
Enrollment:												
300 and fewer (128)	20	16	14	13	10	14	15	7	5	4	5	5
301 to 500 (138)	28	26	23	22	21	21	14	15	7	9	7	4
501 to 1,000 (109)	31	27	20	20	15	11	17	16	10	7	4	5
1,001 to 2,000 (78)	33	24	17	17	17	12	20	22	10	10	4	5
2,001 to 3,500 (25)	36	28	24	24	28	24	16	20	8	4	16	8
3,501 and more (39)	54	50	36	31	28	20	10	26	13	3	5	3
Region:												
New England (51)	31	21	16	14	12	4	6	16	6	4	6	6
Middle Atlantic (109)	31	26	25	18	16	14	5	22	10	10	6	3
South (115)	20	27	16	20	22	11	17	10	8	6	7	6
Middle West (180)	36	26	22	23	18	23	21	12	9	7	4	6
West (39)	25	14	15	14	15	17	24	25	7	8	7	3
Type:												
Public—												
Colleges and universities (70)	44	24	16	16	17	13	16	19	9	4	4	6
Teachers colleges and normal schools (114)	14	14	8	12	7	12	11	6	7	8	6	4
Private—												
Colleges and universities (313)	33	29	26	23	23	18	16	19	9	7	6	5
Total (317)	30	24	21	20	18	16	15	15	8	7	6	5

¹ Data for 2 groups of private institutions, namely, teachers colleges and normal schools, and miscellaneous private institutions, are omitted because of the small number of institutions included.

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The problems which deserve careful attention in connection with the differentiation of freshman instruction should be mentioned here. In the first place, it is an educational waste of time for higher institutions to repeat to any great extent work already covered in the high school. However, in institutions where the freshman classes include some students who had and some who had not previous training in a particular subject, this practice is almost necessary if subsequent failures are to be kept at a minimum. The second problem calls for extended investigation to determine, for example, how far students who have been trained in high-school chemistry may with safety be placed in advance of those who had no training in this subject field. Previous training should be made to yield dividends in the saving of time ordinarily spent in duplicating high-school subject matter.

If a summary look is taken at the evidence presented thus far in the present chapter, it will be seen that the higher institutions in attempting properly to fit together the student and his environment are exerting a great deal more effort in building up records from the information secured through various blanks and tests than they are in differentiating their own instruction to suit the previous training of freshman students.

6. BASES FOR RECOMMENDING CERTAIN COURSES TO FRESHMEN

In all, 10 bases are cited by the institutions included in this study, upon which certain courses are recommended to individual students. Data for five of these are included in Table 24. The five bases not listed in the table are as follows: (1) Vocational intention, (2) field of specialization, (3) psychological and other test data, (4) recommendations of high-school advisers, and (5) junior college requirements. None of these bases was cited by more than 13 institutions.

The extent to which higher institutions recommend courses to new students on the basis of their interests as revealed in interviews is encouraging. The data in Table 24 show to what extent this basis is used in comparison with the other bases. Of course this does not mean that in 62 per cent of the institutions the new students are advised to select all their courses according to their personal interests; the options

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extend only to the courses which are not prescribed by the institution. This interest may or may not have grown out of work taken in the high school. If it has not, and if the institutions still advise the students to follow their intellectual inclinations, then to be consistent they should modify the instruction in the freshman courses in which these students enroll to suit the previous training (or lack of it) of these students. It appears that not all the institutions which give such advice are willing to revamp their own programs of instruction. Whereas 62 per cent of the 517 institutions advise students to follow their own interests in selecting courses, not more than 30 per cent take definite steps in revising the subject matter in one or more freshman courses in accordance with the previous training of the students. In fairness to the smaller institutions, it should be said, of course, that differentiation of freshman instruction is rendered impractical because of the smallness of classes.

TABLE 24.—Percentages of institutions employing certain bases in recommending certain courses to freshman students

Classification	Interests of students revealed by interview	Amount of work done in related fields in high school	Success in certain high-school subjects as revealed by marks	Students left entirely to own selection of courses	All freshman and sophomore work prescribed
1	2	3	4	5	6
Enrollment: ^a					
300 and fewer (128).....	58	37	32	3	8
301 to 500 (138).....	74	41	39	4	7
501 to 1,000 (109).....	64	38	33	14	10
1,001 to 2,000 (78).....	52	33	27	14	6
2,001 to 3,500 (25).....	52	32	20	8	12
3,501 and more (39).....	60	26	35	13	10
Region:					
New England (51).....	47	24	29	10	14
Middle Atlantic (109).....	55	33	34	10	12
South (118).....	63	39	28	8	6
Middle West (180).....	71	42	37	8	6
West (59).....	66	26	31	5	10
Type:					
Public:					
Colleges and universities (70).....	53	31	28	13	10
Teachers colleges and normal schools (114).....	41	20	16	10	13
Private:					
Colleges and universities (313).....	74	44	41	7	5
Total (517).....	62	36	33	8	8

^a Data for 2 groups of private institutions, namely, teachers colleges and normal schools, and miscellaneous private institutions, are omitted because of the small number of institutions included.

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7. PROBLEMS RELATING TO THE ELIMINATION OF FRESHMAN STUDENTS

The problems.—The ghost that is most dreaded by the students who have entered recently upon their collegiate careers is that of failure. Some inquiry has been made among the institutions included in this study concerning the extent of freshman failures, what means are employed to reduce failure, and to what extent the institutions are making careful studies of the causes of failure.

TABLE 25.—Median percentages of 1929-30 freshman class dropped for deficient scholarship (294 institutions reporting)

Classification	Number of institutions reporting 1929-30 freshman enrollments and number of freshmen dropped for deficient scholarship	Median percentage of 1929-30 freshman class dropped for deficient scholarship
Enrollment:		
300 and fewer.....	68	4.9
301 to 500.....	76	6.0
501 to 1,000.....	73	6.5
1,001 to 2,000.....	39	6.5
2,001 to 3,500.....	16	12.0
3,501 and more.....	22	9.0
Region:		
New England.....	32	7.5
Middle Atlantic.....	81	7.5
South.....	60	6.0
Middle West.....	90	6.5
West.....	21	5.0
Type:		
Public—		
Colleges and universities.....	36	11.5
Teachers colleges and normal schools.....	65	5.0
Private —		
Colleges and universities.....	184	6.5
Total.....	294	6.5

¹ Data for 2 groups of private institutions, namely, teachers colleges and normal schools, and miscellaneous private institutions, are omitted because of the small number of institutions included.

Extent of freshman failure.—The institutions included in this study were asked to indicate their total freshman enrollments during the 1929-30 school year. They were then asked to specify the number of freshman students who were dropped during the same school year for deficient scholarship. Two hundred and ninety-four institutions supplied

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the data for both these items. From these frequencies the percentages of the freshman class which failed during 1929-30 have been computed for all the groups of institutions included in this study. These data are presented in Table 25.

A great deal of theorizing could be indulged in while attempting to explain the differences in percentages among the groups in Table 25. For example, some persons may wish to explain the differences on the grounds that there is a relationship between the percentage of failure and the number and character of units required for entrance. One would expect in the case of rigid entrance requirements, that failures would be reduced. However, according to the data in Table 25, this expectation is not borne out in fact. In the regions having the most rigid entrance requirements—New England and Middle Atlantic—the percentage of failure is higher than in the regions where the requirements are less severe. This leads again to the questioning of the validity of maintaining requirements in specific subjects as a selective device. Other persons may wish to relate the differences to the economic status of the institutions or the students, to the aims of the institutions, to the manner in which students are handled subsequent to admission. At any rate, it is clear that a student's chances of failure as a freshman are materially affected by the size and type of institution he enters, as well as by the region in which the institution is located.

Means employed to adjust freshman students and to reduce failure.—The present section is concerned not so much with the extent of freshman failure among the institutions but with a study of what the institutions are doing better to adjust the freshmen to their college life and work, and thereby reduce scholastic mortality among them.

In the original inquiry form, eight means of adjustment were listed which might be employed by the institutions in their attempt to secure the better adjustment of freshman students. The respondents were asked to check the means which were in use in their institutions. The data regarding the extent to which the eight means are employed by the 517 institutions are presented in Table 26.

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TABLE 26.—Percentages of institutions employing certain means for the better adjustment of freshman students

Classification	Orientation courses	Ability groupings	Freshman week	Educational guidance	Better instruction for freshmen	More reliable marking	Review courses for freshmen	More rigid entrance requirements
1	2	3	4	5	6	7	8	9
Enrollment:								
200 and fewer (128) ..	34	15	26	43	19	22	11	20
301 to 500 (138) ..	45	31	53	45	26	16	13	33
501 to 1,000 (109) ..	44	34	60	52	22	24	16	34
1,001 to 2,000 (78) ..	30	33	60	36	21	18	20	33
2,001 to 3,500 (25) ..	36	36	96	40	12	12	4	36
3,501 and more (39) ..	41	41	67	36	31	20	10	50
Region:								
New England (51) ..	29	29	47	40	12	24	10	50
Middle Atlantic (109) ..	41	27	50	51	27	16	15	43
South (118) ..	37	35	60	34	25	17	20	28
Middle West (180) ..	38	25	52	46	22	21	10	30
West (69) ..	50	34	47	47	30	25	12	25
Type:								
Public—								
Colleges and universities (70) ..	36	44	73	36	24	21	16	31
Teachers colleges and normal schools (114) ..	31	21	37	38	18	20	13	25
Private—								
Colleges and universities (313) ..	43	30	55	48	23	18	13	32
Total (517) ..	39	29	53	44	22	20	13	30

¹ Data for 2 groups of private institutions, namely, teachers colleges and normal schools, and miscellaneous private institutions, are omitted because of the small number of institutions included.

Not many outstanding differences occur among the groups in the percentages of institutions which employ certain means for the better adjustment of freshman students. Freshman week is the only means reported to be in use by half of the 517 institutions included in this study. A summary examination of the data in Table 26 seems to indicate that the means of adjustment which the higher institutions are employing are more frequently mere additions to prevailing practices than means which would necessitate a serious change in the routine instructional and administrative life of the institution. Furthermore, the means most frequently reported are such as can be taken care of during a very short time at the beginning of the school year, and do not involve

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any studied departure from the routine procedure throughout the college year. The high rating of freshman week, educational guidance, orientation courses, more rigid entrance requirements, and ability grouping, and the low rating of better instruction for freshmen and more reliable marking support these observations. Educational guidance, of course, should continue throughout the entire year. It is to be hoped that among the institutions in this study reporting its use it is more than the mere direction of students into appropriate courses at the beginning of the school year.

TABLE 27.—Numbers in a total of 517 higher institutions employing and finding unusually successful certain means for the better adjustment of freshman students

Means	Employed	Unusually successful	Per cent employing each means which have found it unusually successful
1	2	3	4
Orientation courses.....	202	23	11
Ability groupings.....	150	14	9
Freshman week.....	269	39	15
Educational guidance.....	226	22	10
Better instruction.....	115	14	12
More reliable marking.....	101	4	4
Review courses.....	69	4	6
More rigid entrance requirements.....	157	24	15

Extent to which certain means are found unusually successful.—The data in Table 27 bring out the fact that although each of the eight means listed is frequently employed by the institutions, the percentages of those employing each means and finding that it has proved unusually successful in adjusting freshman students are surprisingly low. That is to say, among various numbers of institutions which have tried out each means, not many are enthusiastic about the effectiveness of the means to secure desired results. A larger percentage of the schools using freshman week and more rigid entrance requirements as means of better adjustment check those means as proving unusually successful than for any other means. Yet these percentages are only 15. The rank in the frequency with which the eight means are em-

ployed is not duplicated when the percentages of institutions reporting each means as proving unusually successful are ranked. For example, whereas educational guidance ranks second in the extent to which it is employed, it ranks fifth in the extent to which the institutions employing it report it unusually successful. The institutions which employ ability groupings, review courses, and more reliable marking are especially unenthusiastic about the effectiveness of these means in bringing about the better adjustment of freshman students.

In the detailed tabulations of this study the year of adaptation as a definite administrative practice of the means listed in Table 27 was examined. From these tabulations it appears that, among the eight means, if the data for each are studied out of relation to the data for the other, the number of institutions which are adopting educational guidance, more reliable marking, and review courses for freshmen as means of better adjustment is in general increasing, whereas the number adopting the other means is in general decreasing.

Other means reported.—If means of adjusting freshmen other than the eight discussed in the previous section were in effect in any institution, the respondents for those institutions were asked to indicate what those means were, and to describe briefly how they were administered. One hundred and sixteen respondents wrote in additional means. The means most often listed were faculty advisers for freshman students, close supervision for deficient students, private conferences with students, special periodic reports on freshmen, special voluntary work by weak students, special deans or directors of undergraduate students, special personnel directors, and special attention to early social and educational adjustment.

It is appropriate at this point to refer to a few of the plans described by the respondents from various institutions. Five such references will be made. In 1920 Yale University instituted an advisory plan which was described for this inquiry as follows: "A student may go to his faculty adviser at any time during the year. In March and April of the freshman year, when the student is making his choice as to

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the degree for which he will be a candidate, he is required to confer with his adviser. Freshmen are assigned to classes according to their preparation. Every freshman meets his faculty adviser two days before the opening of college and discusses with him his choice of course. Changes in course are made when desirable. Advisers have previously received from the dean's office copies of comments of secondary-school headmasters on student's character, scholastic ability, extracurriculum interests, home background, etc."

A reaction to the Carnegie Foundation's plan of faculty advisers, as it is in effect in the State of Pennsylvania, is expressed by the respondent from Geneva College, located in Beaver Falls. "We have used the Carnegie Foundation suggestion of assigning seven or eight freshmen each to faculty members. We believe this to be an excellent plan if we can get it to work, but the difficulty seems to be in many cases that the faculty members are too busy to give attention to the social and advisory duties imposed by the plan. We are still continuing it, and believe that it is productive of good in cases where it has been carried out." Geneva College adopted the Carnegie plan in 1928.

Some institutions feel that students experiencing scholastic difficulties need instruction in how to study. In 1926-27 the College of Arts and Sciences in the University of Buffalo, Buffalo, N. Y., adopted the plan that "students who do not qualify in respect to rank in class, but fulfill all other requirements in respect to required courses, must complete a 3-week special study course prior to the opening of college in the fall." Salem College, Winston-Salem, N. C., has gone further along this line than is common among higher institutions. In this institution a study process course has been offered during the last three years. About 15 of the freshmen who rank lowest on the North Carolina content test and on an intelligence test are urged but not required to register for the above-mentioned course. Three semester hours of credit are offered. The course includes many private conferences with the instructor, lectures on the budgeting of time, laws of learning, etc. It is the conviction of the registrar of that institution, after three years' experience with the course, that it is entirely worth while.

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Outstanding steps have been taken by the University of Michigan in continuing the contact between the new students and their high-school principals and teachers. These high-school administrators and faculty members are invited to the University during the first semester to confer with the students from their high schools, and again during the second semester to study the problems confronting freshmen, in anticipation of helping the students whom they will subsequently send to the university in more successfully adjusting themselves to the college situation when they arrive on the campus. The continuation of these personal contacts is a noteworthy practice.

Many additional citations could be made of special means which the institutions report as being unusually successful in adjusting new students to college life and work. The examples given, however, are considered representative.

Extent to which studies are carried on by the institutions to determine the causes of freshman failure.—A great deal of floundering can be engaged in by the higher institutions and a great deal of time and effort can be wasted if they attempt to remedy the causes of freshman failure without having previously determined through careful study what those causes are. As a final item in the section in the inquiry form dealing with problems relating to the elimination of freshman students, the respondents were asked to indicate the recent studies, completed or in progress, which have been carried on to determine the causes of freshman failure. Thirty-four institutions among the 517 included in this study reported that studies in this field had been recently completed, and 35 institutions reported that studies were in progress. About half of these studies, both completed and in progress, concern themselves directly with the causes of freshman failure. Almost as many deal more or less indirectly with these causes, having to do with the degree of correlation between college marks and high-school record, intelligence rating, social background, and the like. Incidental studies appear concerning guidance, marks, orientation, and how students spend their time.

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It is as important that higher institutions devote their efforts seriously to careful investigations of the causes of failure as that they spend time and money in setting up plans of selective admission whose effectiveness in bringing about reductions in the number of failures is doubtful. If the present high scholastic mortality which takes place between the freshman and senior years in college and which represents a tremendous loss in time, money, and morale, can be in some measure reduced by refined methods of articulation, then the effort necessary to bring about such a refinement should be made.

3. SPECIAL STUDY OF INNOVATIONS AT THE JUNIOR COLLEGE LEVEL

As a part of the National Survey of Secondary Education, a supplementary study of the types of innovations at the junior college level in colleges and universities has been made. This study was made possible through the courtesy of Kathryn McHale, director of the American Association of University Women, who made available the materials relating to liberal arts education gathered and analyzed by the association. The study made under Miss McHale's guidance was concerned with innovations in the full 4-year period of college education. The supplementary study sought constructive innovations affecting the junior college years only, and sought also to determine to what extent the data from institutions known to have made significant changes at the junior college level corroborated the data from a large number of unselected institutions. Hence most of the documents used in the association's analysis of innovations were reexamined to ascertain the particular bearing of the practice on students in the first two years of college. Also, letters were directed to officers of the institutions represented in order to secure from them further description of the practices and to request them to point out the special bearing of the practices on students at this level.

A report of the above-mentioned study was given by Dr. Leonard V. Koos in an address before the Institute for Administrative Officers of Higher Institutions in 1931, and may be found in Chapter I of that organization's publica-

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tion for that year.¹ Rather extensive quotation from that report is made here.

The results of classifying the innovations thus reanalyzed are given in Table I [reproduced in this report as Table 28]. No brief is held for the grouping and classification used, but it should aid in giving a somewhat organized impression of the changes affecting students at the junior college level. Several plans of classification suggest themselves, but none—including this tabulation—is entirely free from overlapping of one group on another. The present grouping identified six main kinds of innovation, those having to do with (1) organization and administration; (2) student-personnel work; (3) selection and admission of students; (4) curriculum; (5) instruction, sectioning, examination, and marking; and (6) scholarship.

Attention may be directed to the fact that the first group—organization and administration—comprehends organizational features similar to those found in the analysis of catalogues on which summary has already been made. The innovation in this group most frequently reported is the first one, the introduction of a definite division between the first and last two years. Many other innovations in the group are significantly related to this one. This whole group of innovations numbers 74, which is more than a third of all the innovations represented in the analysis.

The group next in frequency is that including changes in the curriculum, and easily the most frequent item in this group is the introduction of survey and orientation courses. Following this group in total numbers is the diverse one, including instruction, sectioning, examination, and marking. The two groups including student-personnel work and practices to foster scholarship among students are almost on a par in frequency. In interpreting the items in the group last named, it will be well to recall that some of them have been introduced to apply to all college levels and therefore apply to the junior college level. Some of the practices, like honors courses, apply chiefly to students at the senior college level, but in the few instances here reported have been extended to apply to lower classmen.

Innovations in matters of selection and admission of students are not often reported. We may devoutly hope that, by contrast with the larger numbers in other groups, this means that those at work in higher institutions regard as more important at the present stage than further improvement of procedures in selection and admission of students the improvement of the educational program for those who have been admitted.

¹ Koos, Leonard V. Trends at the Junior College Level. Proceedings of the Institute for Administrative Officers of Higher Institutions. Vol. III, 1931, Ch. I.

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TABLE 28.—Distribution of kinds of innovation affecting students at the junior college level reported by colleges and universities

Innovation		Number of institutions
A. Organization and administration:		
1. Division between first and last two years.....		22
2. Two-year curriculums.....		1
3. Work of first two years prescribed, of last two years elective (without divisions).....		10
4. Courses open to lower-division students only.....		3
5. Advisory staff for freshmen or for lower-division students.....		16
6. Provision of composite departments or divisions.....		11
7. Segregated housing of freshmen.....		5
8. Coordinated education, rather than coeducation.....		3
9. Off-campus junior colleges.....		3
Total.....		74
B. Student-personnel work:		
1. Programs of personnel work.....		13
2. Systems of records and information for personnel work.....		3
3. Freshmen week.....		1
4. Vocational guidance and placement.....		4
Total.....		21
C. Selection and admission of students:		
1. Innovations in selection and admission.....		8
D. Curriculum:		
1. Survey and orientation courses.....		25
2. Other new cultural courses or requirements.....		6
3. Terminal cultural courses.....		1
4. Articulation with high-school courses.....		2
5. Other new courses or curriculum modifications.....		17
Total.....		51
E. Instruction, sectioning, examination, and marking:		
1. Tutorial or conference plans.....		3
2. Sectioning or grouping for instructional purposes.....		10
3. Comprehensive examinations at end of freshmen or sophomore year.....		5
4. Experimentation for improvement of instruction.....		2
5. Other studies or improvements of instruction.....		10
6. Improvement of marking system.....		2
Total.....		32

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	Innovation	Number of institutions
F. Scholarship:		
1.	Honors courses for students of junior college level.....	5
2.	Independent study and reading.....	3
3.	Arrangements for rapid progress of superior students....	6
4.	Arrangements for slower students.....	3
5.	Exemption examinations for capable students.....	4
6.	Scholarships for lower-division students.....	2
Total.....		23
Grand total.....		209

The data presented in the supplementary study corroborate closely the findings of this investigation in instances where similar inquiries were made. The fact that the findings of the general study of unselected institutions are in general the same as those for institutions known to have made significant changes at the junior college level serves to make additionally dependable the trends pointed out in the complete study.

CHAPTER IV : IMPROVEMENT OF ARTICULATION

1. DIFFICULTIES ENCOUNTERED IN IMPROVING ARTICULATION

Purpose of this chapter.—Up to this point this report has been concerned chiefly with the manner in which students get into higher institutions, the problems which arise in the colleges after they have been admitted, and how the colleges seek to solve these problems, aiming thereby to bring about a fortunate outcome for the student launched on a college career. The present chapter will deal not so much with the manner in which the higher institutions handle the product of the secondary schools as with the general problem of what is being done to effect an improved articulation of secondary schools and colleges.

Data from inquiry forms.—In studying methods to improve articulation, it is not inappropriate to determine what the difficulties are which hinder such improvement. The removal of a difficulty which thwarts improved articulation is quite as helpful as the institution of a new plan to improve it. In order to find out what, to the higher institutions, the difficulties were which ought to be removed if articulation is to be improved, each respondent was asked to indicate the difficulties encountered by his institution. An original list of nine difficulties was suggested. This list was increased by the respondents to include 35 difficulties. Data for nine of the difficulties are included in Table 29.

In addition to the 9 difficulties listed in Table 29, 26 others were specified by the institutions. Representative among these are the following: (1) Lack of instruction in secondary schools in how to study for college courses; (2) lack of proper subject standards of achievement in secondary schools; (3) lack of valid and reliable data—cumulative record of high-school graduates covering interests, personality, and scholarship; (4) encroachment of high schools on college subjects; (5) lowered entrance standards by means of entrance with conditions; (6) traditional idea of necessary change in instructional procedure in passing from high school to college; and (7) wide differences in secondary-school standards.

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TABLE 29.—Percentages of higher institutions reporting certain difficulties encountered in their efforts to improve articulation

Difficulty	Enrollment						Region					Type			Total (517)
	200 and fewer (128)	201-500 (138)	501-1,000 (109)	1,001-2,000 (78)	2,001-3,500 (38)	3,501 and more (30)	N. E. (51)	M. A. (109)	S. (115)	M. W. (150)	W. (59)	Public		Pri- vate ¹ (313)	
												Col- leges and univer- sities (70)	Teach- ers col- leges and normal schools (114)		
	3	3	4	5	6	7	6	9	10	11	13	13	14	15	16
1															
Lack of cooperation from the State Depart- ment of education.....	1	3	5	5	8			2	5	3	2	3	4	3	3
Lack of cooperation from the secondary schools.....	10	14	16	13	13		2	13	13	14	2	7	11	14	12
Intruded opinion in the college faculty.....	10	11	9	15	28	10	6	10	13	13	19	19	7	12	12
Influence brought to bear by standardizing agencies, tending to minimize freedom.....	12	8	8	14	4	8	4	8	12	12	10	11	11	9	10
Lack of objective evaluation of the already existing entrance criteria.....	11	14	16	14	36	15	14	10	16	13	17	19	13	16	15
Lack of specific subject guidance in the sec- ondary schools for pupils planning to enter college.....	45	56	43	41	44	33	35	43	35	32	35	41	33	34	47
Lack of secondary-school guidance of pupils into appropriate activities after graduation.....	27	33	33	35	40	26	20	32	39	32	27	40	30	31	33
Lack of well-organized guidance work in colleges and universities.....	15	23	25	33	20	15	14	13	33	23	22	33	13	22	23
Lack of effectiveness in colleges and univer- sities in properly orientating and instruct- ing the freshmen.....	15	20	26	30	20	13	13	15	26	21	25	26	17	22	21

¹ Data for 3 groups of private institutions, namely, teachers colleges and normal schools, and miscellaneous private institutions, are omitted because of the small number of institutions included.

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Some of the 26 difficulties not included in Table 29 reflect clearly the type of institution reporting, and are not so much actual difficulties encountered in promoting improved articulation as grievances which those institutions have against certain prevailing conditions. Others, however, are exceedingly thought provoking, and represent genuine obstacles which are at present hindering the work of articulation.

The data in Table 29 are self-explanatory. One or two facts, however, deserve to be pointed out. In the first place, when the data for the sixth and seventh difficulties are compared by types of institutions, it appears that the public colleges and universities are less concerned than the private about specific subject guidance in the secondary schools, and are more concerned than the private that secondary-school graduates shall receive effective guidance as to the sort of activity they should engage in after they have completed their work in the high school. Again, twice as many respondents place the responsibility for unimproved articulation at the door of the high school as place it at the door of the college. All in all, the data in the table reveal a significant fact; that is, the four difficulties which are named by the largest percentages of institutions all have to do with guidance. In other words, in the minds of the respondents from the 517 institutions included in this study, the greatest hindrance to improved articulation at present is the lack of effective guidance programs either in the secondary schools or the higher institutions.

Information from special letters.—In addition to the information supplied in the inquiry forms, several respondents wrote separate detailed letters in which certain items in the form were elaborated upon. Several hindrances to effective articulation were cited in these letters. Only two of these can be cited here. One institution reports that—

Some prejudice exists on the part of principals and sometimes superintendents, who are graduates of other institutions, against their high-school graduates attending a school other than their own alma mater. When students break over the wishes of their principals or superintendents, some difficulty is encountered in getting all the information concerning a student that should be supplied to the institution by the principal.

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The junior college situation in one State is reacted to as follows:

The public junior colleges of . . . were established by State law, but they are city owned and city maintained. These public junior colleges are recognized by the State university and the State board of education; hence we have no control of their standards. A number of transcripts have come into this office where freshmen have been permitted to schedule as high as 20 semester hours the first semester. We here allow the freshmen to schedule only 15 hours during the first semester. It is not difficult to understand that, where the junior college is soliciting students to build up its enrollment, such inducements appeal to the prospective freshmen and such a course on the part of the junior colleges presents something of a difficulty in our handling the freshmen and getting along with the high schools from which they come. We are hoping that in the near future these public junior colleges will have to meet exactly the same standards that the 4-year standard colleges are having to meet. Such a regulation would simplify our problem of dealing with the high schools from which junior colleges now draw freshmen.

Many other citations could be given. However, these, along with the other data presented in this section, are enough to give a general impression of the difficulties which the higher institutions are encountering in their efforts to improve articulation.

1. PLANS IN OPERATION FOR THE IMPROVEMENT OF ARTICULATION

Plans suggested in the inquiry form.—It is not enough to enumerate the difficulties which render articulation ineffective and to hope that these difficulties will in some way be removed. It is necessary that constructive steps be taken to overcome them. This section of this report, therefore, is especially significant, because it is concerned with the plans which the higher institutions have in operation in their efforts to improve articulation.

Nine plans of improvement were listed in the inquiry form. The respondents were asked to indicate which of these were actually in operation in their institutions. Following this list, a separate section of the form was set aside for the description of plans other than those included in the list which had been tried out and had proved unusually successful. Table 30 presents the data for the nine plans suggested in the inquiry form. Special attention will be given later to the special plans described by the respondents.

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TABLE 30.—Percentages of higher institutions reporting various plans in operation for the improvement of articulation

Plan	Enrollment						Region				Type			Total (517)	
	300 and fewer (128)	301- 500 (138)	501- 1,000 (109)	1,001- 2,000 (78)	2,001- 3,500 (25)	3,501 and more (39)	N. E. (51)	M. A. (109)	S. (118)	M. W. (180)	W. (89)	Colleges and univer- sities (70)	Public Teach- ers col- leges and normal schools (114)		Private Colleges and univer- sities (313)
1	3	3	4	5	5	7	8	9	10	11	13	13	14	15	16
Research designed to evaluate certain en- trance criteria.....	5	7	10	9	24	26	10	11	10	7	12	17	8	9	10
Joint committees composed of secondary school and college representatives.....	5	4	10	13	20	21	10	9	9	6	15	14	6	10	9
Maintenance of a "go-between" official who contacts the secondary schools.....	16	23	28	24	20	28	27	34	14	21	24	23	18	25	23
Inspection of secondary schools by members of the college faculty.....	6	9	16	10	16	26	12	13	13	9	20	21	10	11	13
Special conventions for college and secondary school authorities.....	11	17	20	23	32	26	27	17	16	15	27	26	13	19	18
Cooperation with the State department of education.....	41	42	48	46	82	51	31	50	46	50	32	61	54	40	45
Cooperation with accrediting associations or the State or national educational associations.....	39	45	48	44	48	49	20	44	45	49	44	46	38	41	44
Cooperation with secondary schools by pro- viding curriculum and building advice, library lists, etc.....	11	5	9	17	24	26	8	8	8	16	15	27	18	5	12
Evaluations of the college records of students from certain high schools.....	23	29	35	32	36	49	27	35	30	31	31	36	30	32	31

¹ Data for 2 groups of private institutions, namely, teachers colleges and normal schools, and miscellaneous private institutions, are omitted because of the small number of institutions included.

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The plan most frequently employed by the higher institutions in their efforts to improve articulation is cooperation with the State department of education. This plan, of course, is most common among the public institutions, and may or may not represent more than casual or routine efforts in this regard. Next to cooperating with the State departments of education, the higher institutions cooperate with accrediting associations or State or national educational associations. The third and fourth ranking plans are evaluation of the college records of students from certain high schools, and maintenance of a "go-between" official who contacts the secondary schools. Detailed comparisons among the data for all the plans could be pointed out at length. Only one special fact will be mentioned. That is, that the larger institutions (more than 2,000) are decidedly ahead of the smaller in the extent to which they attempt to improve articulation through research.

A summary examination of the data in Table 30 creates several general impressions. In the first place, the four plans used most frequently by the higher institutions may be said to represent about the minimum of *direct* cooperation with the secondary schools. Indeed, all four of these plans might be used as means to bring pressure to bear upon the secondary schools, if the institutions were so disposed. Of course, accrediting associations and State departments of education are responsible for the maintenance of certain standards and do not care to have individual institutions violate those standards, but neither of these agencies is opposed to direct cooperation between the colleges and secondary schools to bring about a more thoroughgoing understanding and acceptance of the existing standards, and even to subject them to searching tests which may in the end lead to their revision. The plan in Table 30, which calls for the greatest amount of equalized cooperation, is participated in less by the higher institutions than any of the nine plans listed. Specifically 9 per cent of the institutions are attempting to improve articulation through joint committees composed of secondary school and college representatives.

A second observation is even more outstanding. It was pointed out in the discussion concerning the data in Table 29

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that the four difficulties most frequently mentioned as hindrances to articulation had to do with guidance either in the secondary schools or the higher institutions. When the plans in operation for the improvement of articulation are considered (Table 30), plans that involve coordinated guidance activities are not to be found. It may be that many of the present so-called plans of articulation are too remote to influence the educational and social lives of students, who are, after all, the persons for whom the plans of articulation should function effectively.

Special plans described by respondents.—It was stated earlier that special effort had been made to secure descriptions of plans other than those included in Table 30 which had been tried out and had proved unusually successful in promoting improved articulation. The plan most frequently reported by the respondents was that of sending back to the high schools the college freshman records of the new students. This, of course, is an excellent thing for the higher institutions to do, but, as one respondent suggests, it does not become an effective means of articulation until the high-school principals use these data in making follow-up studies to determine what type of student, sequence of courses, etc., offer the greatest assurance of success in college.

Several institutions report that progress in the work of articulation has been accelerated by holding special conferences for high-school principals and superintendents. In some sections this has grown into permanent organizations, such as schoolmen's associations and the like, where traditional barriers to articulation are broken down through mutual discussion and friendly cooperation. Other institutions state that direct cooperation is secured through taking active steps in making their faculty members available to high-school staff members for interviews and advice. Some institutions go even further and make their staff members available to secondary-school pupils, by supplying speakers for student convocations where college life and work are made the theme of discussion. Especially promising is the practice of organizing regular meetings between high-school and college teachers of mathematics, foreign languages, and the like. In such meetings as these, generalizations concerning articulation

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can be set aside and specific problems in specific fields can be discussed.

Numerous institutions have found especially useful the plan of sending out leaflets to all prospective students, suggesting proper subject preparations for certain departments in the institution, procedures followed by the students in getting enrolled, standards to be met, and various other items of general and special information. A few institutions are adding to the more or less traditional materials contained in such leaflets by including facts about the opportunities in certain occupations and the preparation necessary to become proficient in special lines of work. Some institutions have found it helpful to sponsor vocational conferences for high-school pupils. Strangely enough, not all occupations require a college education; consequently, these conferences may serve as much to direct students away from the institutions as to solicit their attendance.

A few institutions have found it especially helpful to urge students seeking admission to file application early in their high-school careers so that counsel concerning high-school courses can be given. On the other hand, some institutions indicate that they are not only interested in bettering secondary-school procedures and conditions, but are subjecting some of their own practices to change. In other words, the possibility of improving articulation at both ends is recognized. For example, a few institutions find it especially helpful to insist that instructors of freshmen suit their instruction to the freshman and not to the graduate student. Other institutions, instead of being so much concerned about the high-school courses, are concerned more about the careful working out of the college courses in the light of the secondary-school preparation.

One institution finds unusually successful the preservation in the freshmen of the "urge to accomplishment" by inviting their former principals to the campus in December. Also, as evidence that the forthcoming freshmen are not lost sight of, secondary-school teachers and principals are invited to the campus during the second semester to become acquainted with freshman problems, the benefits of such an acquaintance to accrue to high-school pupils who may or may not enter the institution at a later date.

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Several institutions have found that freshman students can be adjusted better and as a consequence will be more successful in college if the secondary schools will supply to them (the colleges) not only a transcript of credits and other data hurriedly assembled at the close of the high-school career, but a detailed record, cumulative throughout the secondary-school years, which gives information regarding health, social and economic background, disciplinary record, special hobbies, and the like. The Carnegie Foundation for the Advancement of Teaching is building up such records in its long-time study of the relations of secondary and higher education in Pennsylvania.

Throughout the above descriptions of unusually successful plans for the improvement of articulation the prevalence of devices which penetrate directly to the pupils in the secondary schools and to those who have immediate supervision over them is notable. In other words, the method of passing resolutions and setting up standards in conferences of authorities from higher institutions, to be reacted to later in similar conferences of secondary-school representatives, seems to have been adjudged too slow, indirect, and ineffective. On the other hand, the method of working out devices and setting up standards in cooperation, rather than independently, seems to be proving more effective, reliable, and pleasant.

It should be pointed out, finally, that certain educational agencies are at work in this field. For example, the Carnegie Foundation for the Advancement of Teaching is conducting a long-time study of the relation of secondary to higher education in Pennsylvania. Also the Progressive Education Association is carrying on an experiment wherein several higher institutions will grant special freedom to certain secondary schools as regards curriculums and school procedures. Traditional requirements in these fields will then be evaluated in terms of student success in college. Several State departments of education or State universities—for example, the Ohio State University and the University of Minnesota—have also set up comprehensive programs intended to improve articulation. Interest in this problem on the part of agencies such as these will no doubt result in the steady improvement of practices.

CHAPTER V : SUMMARY, TRENDS, AND PROBLEMS

1. SUMMARY OF FINDINGS

Sources of data.—This entire report is a summary of the data assembled for the study of articulation. Consequently, whatever review is given here must be concerned only with brief statements about the more general aspects of the project.

It was pointed out that the information presented in this study was secured mainly from an inquiry form filled in for 517 higher institutions. Use was made also of certain data included in inquiry forms which had been returned by large numbers of public and private secondary schools. Articulation has been understood to include not only admission to college but also the means by which students are adjusted to college life and work, once they have been admitted. Special attention has been given at appropriate points to innovating procedures and to practices reported by the institutions as unusually successful in promoting certain phases of the general work of articulation. Descriptions of some of the practices reported in the study were secured through detailed correspondence with college and high-school authorities and through personal visitation to the institutions themselves.

Methods of admission.—In general, the higher institutions included in this study are increasing the number of methods by which students may gain admission. Furthermore, to an increasing extent, institutions are judging applicants on the basis of a combination of criteria rather than on the information gained through a single criterion. Institutions do not in general abandon old criteria of admission when new ones are adopted; rather, batteries of criteria are set up as opposed to criteria used singly. Few really innovating plans of admission are reported. The trend in general is to increase the number of ways by which students may gain admission, at the same time, in many cases, raising the requirements in single methods.

The number of units in five subject fields required for entrance by the institutions is affected more by the region

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in which the institutions are located than by either the size or type of institution. Since 1924 there has been a tendency to increase the number of units of English required for admission. The same tendency is discernible to a lesser degree in the field of the social studies. No trend since 1924 is discernible in the requirement in natural science. However, in mathematics and foreign language there has been a pronounced downward trend since 1924 in the number of units required for college entrance. There has been a more striking reduction in the foreign-language requirement than in the requirement for mathematics.

The number of institutions which have increased since 1924 the number of commercial-industrial-vocational units that will be accepted for entrance is almost exactly the same as the number which have decreased it. Prior to 1924 four times as many institutions had increased the maximum number of units allowed for these subjects as had decreased it. It appears, therefore, that since that date the tendency to decrease the maximum has grown more rapidly than the tendency to increase it.

Approximately one-third of the 517 institutions included in this study indicate that, in recognition of the junior high school, appropriate adjustments are made in the number and nature of units which students may submit for entrance credit. The Middle West and West are clearly ahead in the extent to which such recognition is given. Only about a third of the institutions which recognize the junior high school make a careful check to determine whether or not the 11 or 12 units required for admission actually represent work done in advance of the junior high school level. Of 105 institutions which reported the date when the junior high school was recognized, 98 specified that such recognition was made subsequent to 1925.

Adjustment of students subsequent to admission.—Higher institutions are giving a great deal of attention to the problem of securing the favorable adjustment of new students to college life and work. Considerable care is taken to secure information regarding the students' scholastic, social, and economic background and other items of information, such as condition of health, character rating, special interests, and

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the like. Large numbers of tests are administered, on the results of which class sectionings are made, educational and vocational guidance given, and the student is in general appraised. Not much progress has been made by the institutions in differentiating freshman instruction in certain subject fields to suit the previous training of students. More has been done in this regard in the field of chemistry than in any other field. The interests of students is the chief basis upon which certain freshman courses are recommended. In general, it appears that the institutions are encouraging students to follow out their intellectual inclinations and are endeavoring to help them succeed after they have chosen a line of study.

In 294 institutions, 6.5 per cent of the 1929-30 freshman class was dropped on account of deficient scholarship. Chief among the devices used by the institutions to reduce freshman mortality are freshman week, educational guidance, and orientation courses. To an increasing extent the institutions are designating special officers who counsel and guide the freshmen in all the phases of college life. Only a small number of institutions have made recent studies to determine the causes of freshman failure.

Hindrances to improved articulation, and plans for improvement.—The four outstanding hindrances to improved articulation listed by the higher institutions all have to do with the lack of effective guidance work in either the secondary schools or the colleges. When the plans in operation for the improvement of articulation are studied, the absence of plans for effective guidance programs is conspicuous. The plans for improvement most frequently reported require a minimum of *direct* cooperation between the secondary schools and the higher institutions. When the plans reported by the institutions to be unusually successful are considered, the prevalence of devices which penetrate directly to the pupils in the secondary schools and to those who have immediate supervision over them is notable. Two facts are outstanding when the plans for improved articulation submitted by the secondary schools are studied. First, the most common arrangement, although it is reported by only 12 schools, is one whereby high-school pupils may register

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for a certain amount of work in an adjacent college while they are completing their work in the high school. Second, occasionally an arrangement is cited whereby secondary school and college personnel directors cooperate actively in studying student problems and in setting up devices for the improvement of articulation.

2. PROBLEMS

Many problems represented themselves during the course of this investigation. It is appropriate here to enumerate a few of them.

1. The multitude of admission methods and combinations of entrance criteria used by the institutions included in this study reveals in an impressive way the fact that there are no recognized standards in the field of admission requirements. The actual reliability of individual criteria, or various combinations of criteria, and of no criteria at all needs to be determined. It needs to be demonstrated whether or not traditional entrance standards are worth the trouble they entail.

2. It was pointed out in this report that few institutions make careful studies to justify the requirement of certain subjects for entrance or the acceptance of other subjects for admission credit. Present preference for or discrimination against certain subjects needs to be justified or shown to be fallacious. Such studies as have been made seem to throw the weight of evidence against specific subject requirements, although a few investigators attribute special predictive value to certain types of subjects.

3. At present the manner in which personnel work in the higher institutions is carried on and the character of information assembled concerning students are reflections largely of the personal opinions and interests of the directors in charge. The value of certain kinds of information needs to be established and a general personnel program, recognized as good and at the same time flexible, needs to be outlined.

4. Testimony of numerous institutions concerning the merits of differentiated instruction in certain freshman courses to suit the previous training in those courses needs to be carefully tested. Time, money, and the general morale

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of students could be conserved if the degree of differentiation, if any, suitable to certain amounts of training could be determined.

5. Plans for the improvement of articulation need to be judged in terms of improved student populations and their success in higher institutions and not in terms of popular opinion.

Suggestions as to how articulation may be improved and the means of improvement in effect in numerous institutions were presented in Chapter IV. Some of these practices, particularly the one in which the secondary schools and higher institutions cooperate in comprehensive guidance programs, give special promise of solving in the main the general problem of articulation.

3. FINAL STATEMENT

At the close of this study a sense of confusion prevails because of the extreme diversity among the data secured; but it is accompanied by a feeling that a few plans now in operation for the improvement of articulation are pointing in the right direction. The maze of admission criteria used at present by the higher institutions demonstrates the fact that either there are no admittedly superior standards of admission or the superiority of certain ones has been accepted on the basis of studies of isolated cases. The problem of articulation does not center and is not to be solved at the point of transition from the secondary school to college. It is more far-reaching than that. A great deal of the expensive research now being carried on to determine what entrance criteria are most effective or what subjects should be required might well be turned to the task of solving the articulation problem at its source. That is to say, the abilities, habits, characteristics, interests, health, etc., of pupils ought to be studied during their secondary-school careers, and on the basis of the determined relationships of these to subsequent scholastic success, pupils should be guided into or directed away from the higher institutions. This may seem to be a task for the secondary schools only; but equally as important as this is the task of increasing, through cooperative guidance work with the secondary schools and differenti-

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ated instruction in college, the chances of success in the higher institutions. In view of the fact that past practices in general have failed to allay confusion and have not established the fact of the superiority of certain practices over others, it seems proper to hope that fair trial will be given to a few cooperative programs which touch directly and intimately the present work and future plans of the secondary school and college populations.

