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A SURVEY OF PRESENT TRENDS TO STIMULATE SCHOLARSHIP
IN AGRICULTURAL DIVISIONS OF LAND-GRANT INSTITUTIONS
THROUGH INDIVIDUALIZED INSTRUCTION;

3a
Tentative Report of the Committee on Instruction in Agriculture of the
Association of Land-Grant Colleges and Universities,
1936.

This report of the Committee on Instruction in Agriculture gives the results of a survey of present trends to stimulate scholarship through the individualization of college teaching in agricultural divisions of land-grant institutions.

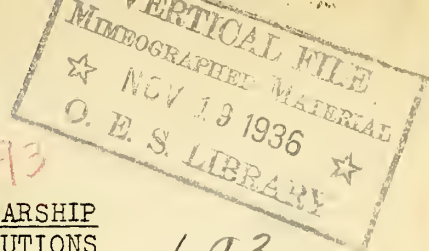
Individualized instruction as conceived in this report means devices used: (1) To discover the ability, interest, and needs of individual students; (2) to organize the curricular content and teaching procedure to meet individual differences; and (3) to keep a personal check on each student, to place more responsibility on students, and to stimulate them to feel that progress and success depend primarily upon their own effort and not upon the effort of the teacher. Individualization involves the recognition and the development of individual initiative and individual responsibility.

This survey was undertaken to determine present trends in curricular adjustment and in instructional technique among agricultural colleges for the individualization of education.

SOURCE OF DATA

The data used in this report were assembled from replies of the deans of agricultural colleges or someone acting for them in each of the 48 land-grant institutions to the questionnaire method of procedure, supplemented by personal visits of the chairman of the committee to 10 representative colleges of this group. In addition to these data a number of institutions submitted bulletins and mimeographed material showing their programs along the line of individualization of college education. These and other references have been consulted freely. The data obtained from the colleges are not complete in many details. In numerous instances the colleges did not give any answers to the questions. With certain limitations, however, it is believed that the data given in this report present a reasonably reliable picture as to prevailing trends to stimulate scholarship in agricultural colleges of land-grant institutions through individualized instruction.

This survey comprises a number of instructional techniques that are in use in certain colleges to provide for individual differences of students. It was not assumed that every college would be using all of them, but that certain ones would be in use at a considerable number of colleges.



INSTITUTIONS OFFERING PROGRAMS TO PROVIDE
FOR INDIVIDUAL DIFFERENCES OF STUDENTS

Personnel or guidance programs for students often operate from some central point of the institution rather than from within individual departments. It does happen, however, that one department sometimes offers a service of this sort which another department may not offer.

The question was asked, Does the institution as a whole maintain a program to provide for individual differences? Returns were received from 48 of the agricultural divisions, of which 23 or 47.9 percent said the institution had a program of this character and 25 or 52.1 percent said they had no such program.

Information as to the departments of the institution in which the program was operating was received from only 17 colleges in the following States:

| <u>State</u> | | <u>Department or Division</u> |
|----------------|---|---|
| Colorado | - | "Chemistry and English." |
| Florida | - | "The general college." |
| Idaho | - | "All departments." |
| Illinois | - | "All through the advisory system." |
| Indiana | - | "In some respects in all." |
| Iowa | - | "In each department in the division of agriculture." |
| Louisiana | - | "In the lower division." |
| Maryland | - | "In the curriculum of every student." |
| Massachusetts | - | "In agricultural economics, animal husbandry, dairy industry, and poultry." |
| Missouri | - | "In English." |
| New Hampshire | - | "Languages, mathematics, and possibly others." |
| New Jersey | - | "English and mathematics." |
| North Carolina | - | "English and chemistry." |
| Oklahoma | - | "In all departments of the school of agriculture." |
| Pennsylvania | - | "In all departments." |
| Tennessee | - | "Chemistry, botany, English, psychology, and mathematics." |
| West Virginia | - | "English and mathematics." |

Five of the colleges that stated that their institutions had programs that provide for individual differences failed to mention the departments.

As to the percentage of the agricultural faculty who were attempting to individualize their teaching, Idaho, Illinois, Indiana, Oklahoma, and Pennsylvania each reported 100 percent. Wisconsin and Wyoming each reported 50 percent, but failed to mention the departments in which the plan was in operation; Massachusetts reported 33-1/3 percent; Louisiana 25 percent; and Florida 5 percent.

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TESTS AND OTHER DEVICES USED AT COLLEGE ENTRANCE
IN SELECTING AND GUIDING STUDENTS

Different kinds of tests as criteria for the selection and placement of college students are now used to some degree in most all institutions of learning. It is not claimed that the results of these tests should be taken as the only criteria in measuring the student's possibilities, but it is generally believed that they do serve a good purpose when properly used.

An inquiry was made to determine to what extent tests were used in selecting and guiding agricultural students when they enter a college. The following tests were reported as being used: Intelligence tests, achievement tests (English, mathematics, etc.), reading-ability tests, problem-solving tests, high-school record, interest-analysis blanks, and personality blanks. The results of the returns are shown in table 1.

Table 1.--Tests and other devices used at college entrance
in selecting and guiding students

| Type of test | Number reporting | Percentage reporting |
|----------------------------|------------------|----------------------|
| Intelligence..... | 32 | 66.6 |
| High-school record | 29 | 60.4 |
| Achievement | 23 | 47.9 |
| Interest-analysis blanks.. | 14 | 29.1 |
| Personality blanks | 13 | 27.0 |
| Reading ability | 11 | 22.9 |
| Problem solving | 10 | 20.8 |

These data reveal wide variations as to the extent to which agricultural divisions are making use of various tests in the selection and guidance of students. In most institutions tests are given at one central office, and this may account for the fact that a larger percentage in each kind of test was not reported. According to table 1, only two-thirds of the colleges are using intelligence tests. High-school records were used by only 60.4 percent of the colleges. The other types of test were not used to any great extent, as shown in table 1.

OTHER MEANS USED TO PROVIDE FOR INDIVIDUAL DIFFERENCES
OF STUDENTS

Aside from sectioning students on the basis of test results, in recent years there has been a growing interest at some agricultural colleges in the direction of sectioning agricultural students from other students in certain courses. Some agricultural teachers believe it to be an advantage for agricultural students to take chemistry in sections separate from those for students from other divisions of the institution, whereas others doubt the value of this procedure. The same argument has been advanced also in favor of sectioning agricultural students from other students in botany and economics. These data show sectioning in some of the subjects is followed to a considerable extent. Table 2 shows the present trend in this direction.

Table 2.--Subjects in which agricultural students are sectioned separately from other students

| Subject | Number reporting | Percentage reporting |
|-----------------|------------------|----------------------|
| Chemistry | 27 | 56.2 |
| Botany | 27 | 56.2 |
| English | 24 | 50.0 |
| Economics | 17 | 35.3 |

Concerning further subdivisions of agricultural students on the basis of professional interest, such as animal husbandry and forestry, 18 reports indicated that such subdivisions were made to some extent.

Sectioning of Agricultural Students
on the Basis of Ability

The practice of sectioning students on the basis of ability or achievement has operated in certain colleges and universities for several years. This method of individualizing college teaching is claimed to have advantages under proper conditions. It is the opinion of a considerable number of college professors that a certain amount of sectioning on the basis of ability is desirable, especially in large sections of elementary courses. Some contend, however, that further experimentation is needed in this field before final conclusions can be wisely reached as to values derived. It is obviously true that in a considerable number of agricultural divisions the number of agricultural students is too small to justify any amount of sectioning, but this situation would not apply in many of the larger colleges. The following colleges indicated that they do section agricultural students on the basis of ability: Connecticut,

Indiana, Iowa, Louisiana, Missouri, Ohio, Oklahoma, Pennsylvania, Tennessee, and Wyoming. The subjects in which students are sectioned were chemistry, English, botany, and zoology.

Sectioning Agricultural Students on the Basis of Previous Training

The plan of sectioning students on the basis of previous training is practiced to some extent. The following agricultural colleges section students on the basis of previous training: Arizona, California, Connecticut, Iowa, Louisiana, Maryland, Michigan, Oklahoma, Utah, Wisconsin, and Wyoming. The courses mentioned in which students were sectioned were chemistry, physics, animal husbandry, farm crops, English, and mathematics.

Permitting Students to Attend Classes at Their Own Volition

Some colleges have gone much further than others in the matter of allowing students freedom in class attendance. At the universities of Chicago, Harvard, Yale, Buffalo, and other private colleges, the tendency is to permit students wide freedom in class attendance. It is recognized that permitting the student to attend class as he desires definitely carries increased responsibility and may work to the advantage or the disadvantage of the student as the case may be. This privilege is generally granted only to the higher type of student and to those in the upper level of the college who have high records of scholastic attainment.

This report shows that 16 agricultural divisions allow students certain liberties in class attendance. As to what extent this practice is allowed there were many qualifications. In some instances it is left to the instructor and in others it is regulated by the administrative officer.

Some institutions grant this privilege only to senior students. Allowing students to attend classes as they please is not indulged in to any great extent among agricultural faculties.

Use of Free Reading Period Before Semester Examinations

The free reading period generally means to discontinue regular class work in courses for brief intervals of about 3 weeks immediately preceding the midyear and final examinations. Certain institutions have experimented with free reading periods for students immediately before examinations to provide opportunity for students to review and catch up on their assigned readings. Students attend no classes or conferences of any kind during this period, but presumably give all their time to private study. For several years Harvard University has used this system, and from all indications it appears to be working satisfactorily. A similar plan is used at a few other institutions.

Apparently this system is used very little in agricultural divisions, as only 5 of the 45 reports indicated that such a plan is followed. In the explanations as to the procedure followed, the returns reveal that what is regarded as a free reading period generally amounts to little more than the regular examination period, comprising from 1 week to 10 days, during which time the students are expected to do what reading or reviewing they think they need to pass the examination.

Use of the Tutorial Plan, Whereby a Member of the Department
of the Student's Major Field Becomes His Tutor and Directs
His Study Through Information, Conferences, etc.

Another element in the direction of individualized instruction is the plan of teaching by tutors or preceptors. In this plan a member of the department of the student's major field becomes his tutor and directs his study through informal conferences, etc. The drift in this direction has sometimes been obvious in certain private institutions. Tutors sometimes give most or all of their time to individualized conferences with students above the freshmen year, and they function in a group of courses rather than in a single course. Tutors are not generally assigned to individual courses or to departments, but some do give a certain amount of classroom instruction. Their function is to help to prepare students for their final comprehensive examinations. These tutors have professional rank as do other members of the staff and are paid accordingly. Twenty to thirty students all above the freshman class are usually assigned to each tutor.

These data show that agricultural colleges have not adopted the tutorial system in such programs as they have to individualize instruction. Four of these colleges did say that they used the tutorial plan, but in the explanation given it was evident that what the reporter had in mind apparently was the service which the head of the department rendered as an adviser or counselor and not as a tutor.

Use of the Conference Discussion Plan in Lieu
of the Lecture or Recitation

There is ample evidence to show that many institutions are making wider use of the discussion conference plan of teaching and even prefer it to the lecture method. This is particularly true in case of smaller classes. The lecture method of teaching is perhaps more practical, and appears to be used more extensively, for large classes. In the conference plan, especially with smaller groups, it is easier to bring the student and teacher into closer contact, and many teachers prefer this method of instruction.

Twenty of the forty colleges reported that they use the conference or discussion plan instead of the lecture or recitation.

The explanations given as to the extent to which the conference or discussion plan is used show that the plan is confined mostly to seminar courses or to advanced courses with a small number of students.

Use of Honors Courses to Meet the Ability, Interest, and Needs of Students

Of all the different devices to provide for individualized education, honors courses are perhaps the most extensively used in higher institutions of learning. Unquestionably, honors courses have found their greatest use in the liberal-arts colleges.

The Thirty-first Yearbook of the National Society for the Study of Education, Part II - Changes and Experiments in Liberal Arts Education - gives a list of 100 institutions in which honors courses are given. The use of honors courses, however, differs widely in different institutions. In some it supersedes the use of regular courses completely or almost completely. In others it displaces a part of the course instruction, and in still others it means but little more than an additional course in which a greater degree of informality is found than in other courses of the college. In general the use of honors courses is limited to the senior college, although in a few institutions they are used in a more or less modified form in the freshman and sophomore years.

A variety of plans have been devised for the awarding of general honors or special honors at the different institutions. They range anywhere from general honors, meaning recognition of high grades in regular courses, to special honors, which cover from 2 to 3 years of study and end with a comprehensive examination and final dissertation.

The chief argument in favor of honors courses is that they provide opportunity for the superior student to do special work along the line of his special ability, to work up to his full capacity and not to be satisfied merely in keeping up with his class. On the contrary, it sometimes is claimed that honors courses lead to too much specialization at an early age, that they tie the student down to a few instructors, and finally that they may result in the student's neglecting his duties to required courses in other departments. There are obviously differences of opinions as to the value of honors courses. The two most distinct procedures followed in connection with honors courses are: (1) To admit all students who have demonstrated superior scholastic ability. Swarthmore College follows this plan. About 40 percent of the student body there are in honors courses. (2) The plan followed by the University of Buffalo that permits all senior college students to enroll in honors courses. Strictly speaking, students in honors courses usually are relieved of the requirements of the regular curriculum, but with guidance from their teachers.

Honors work at Swarthmore College, according to President Frank Aydelotte, has been more expensive than the conventional academic system. It requires about 20 percent more instructors and consequently about 20 percent more expense. The nine agricultural divisions that reported they use honors courses to meet the ability, interest, and needs of students were in the States of Connecticut, Florida, Iowa, Maine, Massachusetts, Missouri, New Jersey, Washington, and Wyoming.

Use of Comprehensive Examinations

Comprehensive examinations are given at the time of graduation to cover the whole of the student's major subject in addition to or in lieu of course examinations. Examinations are for all students, and for this reason are therefore of vast importance to all students. The quality of examinations used in colleges and universities in recent years has been greatly improved. This is particularly true in regard to comprehensive examinations, the use of which has been widely extended in recent years. Although it is true that comprehensive examinations are intended to be more inclusive than a regular course examination, they do sometimes cover only the work of a single course and, in addition, a designated amount of outside reading. Generally, their range covers two or more courses at some institutions. When comprehensive examinations embrace the whole of a student's major field, they may cover the work done in five or six courses with a certain amount of required outside reading.

Concerning the value of comprehensive examinations the report of the Committee on College and University Teaching^{1/} has this to say:

"The purpose of the comprehensive examination is twofold. It aims to induce an integration of the student's work in a particular field. Its object is also to ascertain the student's intellectual grasp and power rather than to find out how much information he has been able to acquire. An additional aim of the comprehensive examination is to stimulate the student to do outside reading, so that he will master a subject rather than a course or group of courses. In other words, such examinations aim to repair the damage which has been done by dividing the academic curriculum into many small compartments -- into courses, half courses, and quarter courses, each of which often covers only a very small portion of the subject and does not articulate with the others. Comprehensive examinations form an essential part of an honors program, or a tutorial plan, or indeed of any scheme which provides for independent reading on the part of the student."

Another part of the same report says:

"Professors in institutions which have made use of comprehensive examinations seem to be, on the whole, well satisfied with them. Such examinations, especially when preceded by tutoring or frequent conferences, make possible a small amount of classroom instruction. They encourage the student to read independently and to correlate his knowledge.

^{1/} Bulletin of the American Association of University Professors, no. 5, sec. 2, May 1933, p. 92.

Regardless of the merits of comprehensive examinations, little use is made of them by agricultural faculties. Only seven colleges said they make use of this manner of examining students. The vast majority seem to prefer the traditional way of giving course examinations.

The extent to which comprehensive examinations are used in the small number of agricultural divisions giving them ranges all the way from all candidates for degrees to students of certain divisions, as dairying and animal husbandry. Three colleges stated that such examinations are used for those students with high average who apply for graduation with honors. Two other colleges reported that comprehensive examinations are used with all students who, at the end of the sophomore year, wish to establish junior standing. Questioned as to whether comprehensive examinations had affected the education of students significantly in motivating them to higher study, four thought they had and three did not think so. As to the value of such examinations in creating individual initiative of students, three thought they had value and four thought they had no special value.

Are Courses Organized and Taught to Provide for Individual Interest, Ability, and Needs of Students?

The thought was advanced earlier in this report that the individualization of teaching is the most important of all types of individualization. Ministering to the student's personal problems and his extra-curricular activities is all right as far as it goes, but until the teacher understands and fully appreciates the value of individualized instruction to the extent that his courses are organized and taught on the basis of individual interest, ability, and needs, the battle for individualization will not be won. There is a distinct differentiation between individualism and collectivism from the point of view in education. Contrary to the feeling of some, individualized instruction does not necessarily prevail in small colleges just because classes are small. Individualization is found just as often in large institutions where classes from necessity are sometimes large.

These facts reveal that courses are organized and taught to provide for individual interest, ability, and needs of students to quite a considerable extent in 21 of the 35 colleges. In the explanation as to how this form of procedure is used, the facts show a wide variety of methods. It is obvious also that this method is not used in every course. A few reports said, "To a limited degree." Some few give special problem work for high-ranking and advanced students. Two or three colleges felt that they were able to individualize their instruction reasonably well merely because their classes were small, which afforded the teacher and student opportunity to become better acquainted. On the whole the data furnished as to method of procedure followed were vague and revealed little about a definite plan for individualization in teaching subject matter.

Permitting Superior Students to Do in One Semester
What Is Required of Other Students in Two Semesters

The practice of allowing superior students to do in one semester what other students do in two has little consideration in colleges of agriculture. The plan followed in five of the colleges in the interest of the superior student is to permit the taking of extra courses, which makes possible an earlier completion of the 4-year course. There is a tendency in one or two colleges to allow superior students in advanced-pace sections, to obtain double credit in certain courses, provided a certain grade is made. The courses mentioned in which this privilege is granted are English, chemistry, botany, and zoology. Both superior and slow students are required to cover the same amount of subject matter in each course in the college of agriculture, but in a few instances superior students are assigned extra work in the form of special problems or reports.

Allowing Superior Students to Gain College Credits
by Special Examinations Without Having Taken
the Course in Class

In recent years certain institutions have established a policy of permitting superior students to make college credit in a subject by special examinations without taking the course in class. This is one of the many experiments now in operation in programs to individualize education. There may be differences of opinion as to the wisdom of the procedure, but it is evident that certain educators believe in its value. In the program for the individualization of education at the University of Chicago a good deal of consideration is given to this particular adjustment in teaching procedure.

Dr. Chauncey S. Boucher^{2/}, former Dean of the College, University of Chicago, has this to say in favor of this method -

"We have found that some students either are prepared or can prepare themselves without instructional assistance for one or more examinations, others need only part of the regular work of a given course, while the majority need all of the class work offered."

He stated further -

"Approximately 25 percent of our freshmen this year have indicated that they plan to take one or more of the examinations without taking the respective course or courses offered to prepare students for examinations. We believe that this type of individualization of

^{2/} Boucher, Chauncey S. Curriculum Provision for the Individual in the University of Chicago. Ch. IX, p. 106, of Provisions for the Individual in College Education. (Edited by William S. Gray.)

student programs is one most needed to bring home to each student the true meaning and significance of the educational process for him individually."

In discussing this plan further, Dr. Boucher said -

"It changes almost completely the motivation of a majority of the students, and it changes very significantly and quite wholesomely the relationship between student and instructor."

The custom of permitting certain students the privilege of making college credit in subjects by special examination without taking the course in class is followed to some extent in 25 colleges of agriculture, but the practice is the exception rather than the rule, and this privilege is granted generally to those students who have demonstrated high achievement in other courses. One college did state, however, that any student with the approval of the instructor or dean may take the examination in lieu of the course.

Are Certain Students Permitted to Substitute for Required Courses Other Courses More in Line With Their Interest, Ability, and Needs?

The elective system was designed in colleges to give the student the opportunity to select courses that provide a better balanced intellectual training. Some feel that the elective system has given the student too much freedom. It is obvious that the program of the student has been greatly changed as the result of the large number of subjects offered him and the freedom in making his own choice. Under proper guidance there would seem to be little doubt that this freedom has had a wholesome influence in college training, but it seems clear that if the student is to receive the assistance so essential to his greatest success, proper consideration should be given to a study of the student himself to determine his interest, ability, and needs and to use these as guides in choosing the course of study.

Freedom in selecting courses has functioned in the technical college as well as in the liberal-arts college, but perhaps not so extensively in the technical college because of the specialized type of training sponsored in the agricultural courses.

That colleges of agriculture do permit students to substitute for required courses other courses more in line with their interest, ability, and needs is plainly shown. Of the 43 colleges reporting on this question, 39 stated that they granted this privilege, whereas only 4 said they did not. This shows that the majority of agricultural college curricula are offering opportunity for students to select courses in keeping with their interest, ability, and needs. The explanation given as to how this procedure is followed show that the decision in such matters is not left entirely to the discretion of the student, but must have the approval of the head of the department, or the dean, or both.

Requiring Slow Students to Take Reduced Schedules
or More Than 4 Years for Graduation

The tendency in higher institutions of learning to provide for individual differences by a differentiation among individual students as to the amount of work they are allowed to carry is a commendable one. No program for the individualization of education would be complete without it. The superior student, with the ability and determination to do extra work for additional credits to enable him to graduate in less than 4 years, should be permitted to do so as some institutions are permitting him to do. In like manner, the slow student, even though he does not complete the required number of courses in 4 years, should, if he meets the standard requirements, be permitted to graduate, even though an extra half year or a full year is required. It is evident that colleges of agriculture are giving considerable attention to this element of the program for individualized instruction. Forty-four colleges reported on what they were doing along this line, thirty-three said they provide for individual differences by requiring slow students to take reduced schedules, or more than 4 years, for graduation, and eleven stated they have no provisions of this kind.

Use of Programs for Individual Differences by Offering
a How-to-Study Course for Weaker Students

A large number of colleges and universities in recent years have offered a course in the technique of studying for those who rank below the average of their high-school graduating classes. Some college professors feel confident that a How-to-Study course has considerable value for those students who come from the lower level of their high-school classes, and others feel that in the long run such a course has little or no value. Experiments made at a few institutions to test the value of a How-to-Study course by using two groups of students, one a controlled group and the other a trained group, give results favorable to the How-to-Study Course,^{3/}

Several colleges of agriculture are giving considerable attention to the matter of offering training to weaker students on How to Study. Twenty of the forty-five reports received on this inquiry stated that they offered such training. In the large majority of cases the training offered is not a systematic course as it is commonly thought of, much of this training being given during the freshman week and in other instances more or less sporadically. Judging by the explanations given by these institutions it is obvious that the majority of such so-called courses are more in the nature of personnel work of an unsystematic character rather than a formal course in the technique of How to Study.

^{3/} Eckert, Ruth E., and Jones, Edward S. Value of a "How to Study" Course for College Students. The University of Buffalo Studies, vol. X, no. 2. June 1935.

Cooperative Plan Between the English Department and the
Agricultural Department for Checking and Improving
the Student's English

Experience has demonstrated that many students in the colleges of agriculture are deficient in their high-school English instruction.

In recent years there has been an increasing tendency for the English departments to cooperate with other departments of the institution in the matter of raising the quality of expression among those students known to be deficient in English. This is, of course, a kind of service which the English teacher renders to students in addition to the regular college course in English. The practice of giving students this extra help by the English department seems to be as common in agricultural divisions as in any department of the institution. Twenty-two colleges said there is a cooperative plan between the English department and the agricultural department for the purpose of checking and improving the student's English. The procedure generally followed is for agricultural teachers to report to the English department the names of students whose written work shows poor English. Some colleges follow the plan of submitting papers written by agricultural students of the junior and senior years to the English department for correction. In some instances the student may be asked to take additional English instruction in a regular organized course before being allowed to graduate.

Has Individual Instruction Value in (1) Discovering Ability, Interest, and Needs of Students; and in, (2) Stimulating Scholarship?

On the basis of their personal experience the deans were asked if they felt that instruction which provides for individual differences has values in discovering the ability, interest, and needs of students, and 24 said they believed it had. The same number stated that in their experience individualized education has value and has resulted in stimulating scholarship.

In the matter of giving examples as to how the program to individualize had functioned in these two directions very little was offered. In one institution the reporter thought the program was too recent to be properly evaluated. Another said the stimulation of interest was the most important value. One dean believed that individualized education has great value as a means of helping students to find their life work. In the way of stimulating scholarship, one dean thought individualized education has much value in helping students to make the most of their opportunity, and another reported that the plan has more promise for the good student but that the poor student might fare better under the other plan.

Has the Program to Individualize Instruction Required
an Increased Personnel and Budget?

In considering experiments with new methods of instruction, many of which have aided materially in transforming and improving college teaching during the past few years, the question of extra cost in setting up the administrative machinery is an element of no small concern. This is particularly true in cases of public-supported institutions of learning such as land-grant institutions. During recent years most, if not all, of these institutions have been obliged to reduce their budgets, which in many instances has meant reducing the teaching staff, increasing the teaching load, or cutting salaries. Regardless of the merits of any of the new experiments with methods of instruction, the obvious fact remains that unless the necessary funds for inaugurating and carrying out the program are available the results will not be satisfactory. It is easy to see that certain of the techniques used to individualize instruction would incur some extra expense and that others would not. Some of those which are sure to entail either a considerable appropriation for additional teachers or a great deal of extra work on the part of the faculty are: Honors courses, teaching by tutors or preceptors, the conference plan in lieu of the lecture and recitation, and perhaps some others. Most any of the techniques for individualization of education will require more effort on the part of the teacher. One of the concepts of individualization laid down by Ernest H. Wilkins^{4/}, President of Oberlin College, is:

"That individualization never comes automatically and can be attained only by a combination of good will and hard work."

According to reports from eight colleges, their programs to individualize instruction have required an increase in personnel and budget. It must be remembered, however, that colleges of agriculture have not as yet begun a full program for the individualization of education as it is generally conceived. Some of them are making use of certain elements of such programs with reasonably good results, but on the whole the program is far from extensive in comparison to what certain other institutions are doing along this line.

^{4/} Ernest H. Wilkins. Provisions for the Individual in College Education, ch. I, p. 12, University of Chicago Press. (Edited by William S. Gray.)

SUMMARY AND CONCLUSIONS

In recent years many changes and experiments have been introduced in higher education. Although the vast majority of these changes have occurred in liberal-arts education and mostly in private colleges, a fair number of them have been made in public-supported institutions, some of which are land-grant institutions. There are also a great many changes and experiments being launched in higher education that are not reported in current educational literature.

Much time and effort of administrative and personnel officers and of certain teachers are being directed to a more careful study of personnel problems, including a more penetrating analysis of the student himself, of methods of instruction, and, to a considerable extent, of curricular offerings. The objective in all this is to make college programs meet more effectively the interest, ability, and needs of individual students.

This survey was undertaken to determine such provisions as are made for individualization of college education through curricular adjustments and in the various instructional techniques in agricultural divisions of land-grant institutions.

According to data received, only 23 institutions, of which these colleges are a part, had a program for the individualization of college teaching, and only 17 mentioned the departments in which the program was operating. The reports in several instances gave one or two subjects in which effort was made to individualize instruction; in others the entire curriculum of the student was mentioned.

With reference to the percentage of the agricultural faculty that was following this kind of program there was wide variation. Five reports gave 100 percent, one report 33-1/3 percent, two reports 30 percent, one 25 percent, and one 5 percent. The remainder made no report.

Quite a number of agricultural faculties make provision for individual differences by sectioning agricultural students from other students in certain subjects. Twenty-seven colleges separate agricultural students from other students in chemistry. Twenty-seven follow this procedure in botany, twenty-four in English, and seventeen in economics.

Sectioning students on the basis of ability is not followed to any great extent in agricultural colleges, as only 10 of the 39 colleges reporting seemed to follow this practice. Eleven stated that they section students on the basis of previous training, as in cases where an agricultural student had had 4 years of agriculture in high school, a good course in high school chemistry, etc.

The custom in certain institutions of allowing students to attend classes as they choose is not practiced to any great extent in agricultural colleges. Generally the student, in order to enjoy this privilege, must be a senior or must have an outstanding record in class marks.

A free reading period prior to regular examinations to give students opportunity to review and catch up on their assigned reading as one of the new devices for individualization of education is used very little among agricultural faculties. Only five colleges reported free reading periods, and even among these the data indicated that the so-called "free reading period" consisted generally of the time given for regular examinations, during which the student would be privileged to do such reviewing as he desired.

The tutorial plan of instruction which is being used in certain liberal arts colleges has made practically no headway among agricultural faculties. This may be due in part to the extra cost which tutors involve.

The conference-discussion method of teaching in lieu of the lecture or recitation method to establish a more personal relationship between instructor and student receives substantial consideration in agricultural colleges. Forty colleges sent replies as to their plan of procedure along this line, twenty of which stated that they use the conference plan to quite a considerable extent.

The use of honors courses to meet the ability, interest, and needs of students is one of the most commonly used devices for the individualization of college teaching. Such courses are used quite extensively in certain liberal arts colleges. The thirty-first yearbook of the National Society for the Study of Education, Part II - Changes and Experiments in Liberal Arts Education, lists 100 institutions which offer honors courses. The so-called "honors courses" are offered in 9 of the 44 colleges which furnished data on this question, 35 reporting that honors courses were not offered.

Comprehensive examinations as a device for individualizing college teaching designed to cover the whole of the student's major subject in addition to or in lieu of course examinations, and which from all appearance are used effectively in certain colleges and universities, are used sparingly in seven agricultural divisions. The extent to which these examinations are used by agricultural faculties ranges all the way from all candidates for degrees to students of certain divisions such as dairying and animal husbandry. Four of the seven colleges using comprehensive examinations felt that they had resulted in stimulating the student to higher study, and three stated that this type of examination had value in stimulating individual initiative.

Considerable emphasis is being put on the importance of organizing and teaching subject matter so as to provide for individual interest, ability, and needs of students by administrative officers and teachers of certain institutions. The extent to which there is clear differentiation between individual and collective instruction by different teachers may be questioned. Most any teacher may feel that his teaching is directed to the interest, ability, and needs of individual students, even when all students are offered the same quality and quantity of the intellectual menu. As a matter of fact the truth would seem to lie in the individual teacher's concept of what is meant by individualized instruction. Be this

as it may, this report shows that courses are organized and taught to provide for individual interest, ability, and needs of students in 21 agricultural divisions of 35 institutions.

The practice followed in some institutions of higher learning of requiring superior students to cover more subject matter than slower students cover has minor consideration among agricultural faculties. Reports from 42 colleges show 37 requiring all students to cover the same subject matter and 5 making a difference between superior and slow students in this respect. The colleges making this distinction were Delaware, Iowa, Louisiana, Wisconsin, and Wyoming.

According to these data the majority of agricultural divisions make provisions for individual differences by permitting certain students to substitute for required courses other courses more in line with their interest, ability, and needs. Of the 43 reports on this matter 39 stated that this provision is made.

Providing for individual differences by requiring slow students to take reduced schedules, or more than 4 years, for graduation is followed in 33 of 44 colleges answering this question.

Training for certain students on a How-to-Study course is offered at 20 agricultural colleges, but indications are that some of these courses are more in the nature of personnel work than a formal course on how to study.

Cooperation between the departments of English and agriculture for the checking and improving of differences in the student's English is practiced to some extent in 22 agricultural divisions.

Half of the agricultural colleges stated that they believed programs to individualize instruction have value in discovering interest, ability, and needs of students and in stimulating scholarship.

Eight of the colleges which have made some effort to develop programs to individualize instruction stated that increases in both personnel and budget have been necessary, and 18 stated that no increases have been needed.

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BIBLIOGRAPHY

The following list of selected references deal directly and indirectly with changes and experiments in higher education. The list is offered for the convenience of those interested in knowing more about the problem of how to provide better programs for the individualization of education. The list is not complete but suggestive.

- Aydelotte, F. "Honors Courses in American Colleges and Universities", Bulletin of the National Research Council, X, April 1925, Part II, No. 52.
- Gray, W. S. (ed.) "Provisions for the Individual in College Education", The University of Chicago Press, Chicago, Ill.
- National Society for the Study of Education, Thirty-first Yearbook, Part II, Changes and Experiments in Liberal-Arts Colleges, Public School Publishing Co., Bloomington, Ill.
- Jones, Edward S. "Comprehensive Examinations in American Colleges", The Macmillan Co., New York, N. Y., 1933.
- Report of the Committee on College and University Teaching, Bulletin of the American Association of University Professors, Vol. XIX, No. 5, Section Two, May 1933.
- De Voto, B. "College Education for the Intelligent Few," Current History, XXXV, March 1932, pp. 792-798.
- Gray, W. S. "Recent Trends in American College Education", Proceedings of the Institute for Administrative Officers of Higher Institutions, University of Chicago Press, 1931.
- Lowell, A. L. "Disadvantages of the Current American Practices of Conferring Degrees (with exception of the Ph.D.) on the Accumulation of Credits in Individual Courses Rather than as the Result of Examinations upon Broad Subjects", Journal of Proceedings and Addresses, Association of American Universities, 1911, pp. 45-52.
- Lowell, A. L. "Self Education in Harvard College", Journal of Higher Education, I, February 1930, pp. 67-72.
- Morgan, A. E. "The Antioch Program", Journal of Higher Education, I, pp. 497-502.

- Spencer, W. H. "Comprehensive Examinations in Business", Journal of Business, IV, July 1931, pp. 98-100, 107-110.
- Tatlock, J. S. P. "The General Final Examination in the Major Study", Bulletin of the American Association of University Professors, X, December 1924, Report by Committee G, pp. 609-635.
- Trow, W. C. "Measurement of Progress and the Comprehensive Examination", National Society of College Teachers of Education, XX, 1932, pp. 62-76.
- Jersild, A. T. "Examination as an Aid to Learning", Journal of Educational Psychology, XX, November 1929, pp. 602-609.
- Jones, H. E. "Experimental Studies of College Teaching: The Effect of Examinations on Permanence of Learning", Archives of Psychology, No. 68, 1923, Columbia University.
- Paterson, D. G. "Preparation and Use of New-Type Examinations", World Book Co., 1927.
- Weidemann, C. C.
and
Wood, B. D. "Survey of College Examinations, Teachers' College, Columbia University, 1926.
- Jones, Edward S. "A Charter for the Superior Student", The University of Buffalo Studies, Vol. X, No. 3, January 1936, Buffalo, N. Y.
- Eckert, Ruth E.
and
Jones, Edward S. "Value of a How to Study Course for College Students", The University of Buffalo Studies, Vol. X, No. 2, June 1935, Buffalo, N. Y.
- Cutten, George B. "The Freshman Enters the Field of Knowledge, Aiming at Something versus Shooting at Everything", John Smith: Freshman. Colgate University, Hamilton, N. Y. (Colgate Papers, Numbers 1, 2, 3. 8 pages each.)
- Brooks, R. C. "Reading for Honors at Swarthmore." A record of the first five years, 1922-1927. Oxford University Press: New York, 1927.
- Good, Carter V. "Teaching in College and University." A survey of the problems and literature in higher education. Warwick and York: Baltimore, 1929.

- Gray, Wm. S. (ed.) "Recent Trends in American College Education."
(Proceedings of the Institute for Administrative Officers of Higher Institutions, 1931, Vol. III.) University of Chicago Press: Chicago, 1931. 253 pp.
- Johnston, J. B. "The Liberal College in Changing Society."
Century: New York, 1930, 326 pp.
- Judd, Charles H. "Problems of Education in the United States."
Recent Social Trends Monograph. New York: McGraw-Hill Book Co., Inc., 1933.
- Harper, William R. "The Trend in Higher Education." University of Chicago Press: Chicago, 1905.
- Wilkins, E. H. "The Changing College." University of Chicago Press: Chicago, 1927.
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